THE UNIVERSITY
OF ILLINOIS
LIBRARY
720.5
ARB
v.53

VOLUME
FIFTY-THREE.

1921.

JANUARY—
JUNE.

23358/8

THE
ARCHITECTS' JOURNAL
& Architectural Engineer

It is our aim, our ambition, our aspiration even, to build our journal worthily and well, not for the hour only, but for future years; for the few men in the forefront of an enduring and a laborious art; for the disiplined ranks of a distinguished profession; for the young men—Architects to be—and for all who love a clustered column or a flying buttress, a traceried window or a Greek frieze; for the man, too, who honestly plumbs a jamb.

TECHNICAL JOURNALS LTD.,
27-29 TOTHILL ST., WESTMINSTER.

720.5
ARB
v. 53

CONTENTS.

A. AND S.A.P.U. ANNUAL REPORT, 42.
Abolition of the Chimney Stack, 337.
Adapting Old Houses to Modern Requirements. By Ll. D. Morris, 417.
Amalgamated Housing Industries, Ltd., 782.
American Critic, An. By Aero, 117.
Anderson, The Late Sir Rowand, 751.
Annual Meeting of National Federation, 133.
Architect, A Comedy with an, 15.
Architect as Collector and Connoisseur, The, 25.
Architect, Fame and the, 787.
Architect, The Library and the, 549.
Architects as R.E. Reserves, 567.
Architects' Assistants, The Salary of, 142.
Architects' Assistants and a Minimum Wage, 198.
Architects' Benevolent Society, 168, 225, 595.
Architects' Club at the Building Exhibition, 278.
Architects' Cricket Match, 783.
Architects' Fees for Abandoned Housing Work, 768.
Architects' Interest in the Industry, The, 115.
Architects, Provincial. See Societies and Institutions.

ARCHITECTS, SOCIETY OF. Work of the Past Year, 71.
  Victory Scholarship, 84.
  Proceedings, 139.

ARCHITECTURAL ASSOCIATION—
  Work of The, 316.
  Proceedings, 393, 557.
  An Appeal for Funds, 640.
  House List, 721.
  New President, 752.
  Appeal for Funds, 752.

Architectural Bridge Approach, An, 411.

ARCHITECTURAL CAUSERIE. By Aero—
  Railway Practice, 6.
  Concerning Libraries, 34
  English Libraries, 63.
  Untidiness, 91.
  An American Critic, 117.
  Eighteenth-century Fireplaces, 151, 182.
  George Papworth, 212.
  The Chippendales, 288, 315, 347.
  The Sordid Side, 580.
  Where Tradition Lingers, 669.
  Examine and Compare; A "Stage Wait"; Art an Architectural Issue; A Giant Cinema for London; Rebuilding in the West End; A Remarkable Sculpture Group; Tests on Building Stones, 375.
  The City Beautiful; Shams; Stately Stowe; At Marcus Stone's Funeral Service; The All-Conquering Film; A New Hospital for London; Drury Lane Reconstruction; Professor Reilly leaves for America; A Big Conversion Scheme, 404.
  Illuminated Signs; What to Look For; Public Interest in Architecture; The Roman Coliseum Reprieved; Norman Church as Wash-house; Rebuilding Louvain Library, 439.
  Interesting Chambers Relics; An Oxford Street Restoration; London's Atmosphere and Stone; The Late William Strang, R.A.; Builders' Education; Architects and Birmingham Housing, 480.
  What's in a Name; Distinguished Candidates; Black Ceilings; Housing Schemes in Bedfordshire; The Origin of Double Elephant Paper, 523.
  Architecture at the Academy; The New Architectural A.R.A.; Architecture's Many Facets; Bill-stickers Beware! 553.
  Painting the Town Pea-green; Furnishing the L.C.C. Hall; Ampthill and its Alameda, 609.
  A New Variety Theatre for London; Mr. Chesterton among the Architects; The Destroyed Custom House; Architecture Made Popular, 699.
  Mr. Michael Waterhouse; Chambers' "Temple of the Sun"; "Fashions in Architecture"; Architects' Travelling Expenses; Abandoned Housing Work; A War Memorial by Mr. Simpson, 727.
  A Burton Building Preserved; The King's Sculptor for Scotland; The Skyscraper Poetised; Eighteenth-century Statuaries, 759.

Architectural Education. By L. Sylvester Sullivan, F.S.Arch., A.R.I.B.A., 614.
Architectural Education. An Analysis of the Academic System. By Lionel B. Budden, M.A., A.R.I.B.A., 792.
Architectural Office Administration. By Francis Lorne, A.R.I.B.A., 671, 697, 729, 790.

ARCHITECTURAL REVIEW, THE, 49, 546, 649.
Architecture, About Contemporary British. By H. S. Goodhart-Rendel.
Architecture and Commerce. By H. Gordon Selfridge.
Architecture and Travel, 622.
Architecture as Everyone's Concern. By A. Clutton Brock, 562.
Architecture, Dynamic Symmetry in Ancient. By Jay Hambidge, 301.
Architecture in Relation to the Architect. By J. C. Dewhurst, F.R.I.B.A., 586.
Architecture, Mr. Chesterton on, 714.
Architecture, The Popularizing of. By Charles Cowles Voysey, 789.
Architecture, the Press, and the Public. By An Architect, 403.
Architecture? What is Wrong With. By C. C. Voysey, 437.
  Some Further Views, 479.
Art in Common Life, 374.

BANK FOR LONDON, A NEW, 440.
Banks for Liverpool, New, 659.

BANKS—
  Their Building and Equipment. By Ed. Maufe, M.A., F.R.I.B.A., 240.
  Ventilating, Heating, and Lighting of. By Ambrose W. Coffin, M.I.H.V.E., 265.
  Notes on Illustrations, 270.
  Details of Equipment, 274.

Banking Premises, The Design of. By Aero, 233.
Battlefield Garden Cities, 408.
Beauty and Utility, 341.
Beauty, The Instinctive Craving for, 371.
Better Way in Ethics and Industry, The, 637.

BOOK NOTICES—
  Art of E. A. Rickards, The. By Prof. C. H. Reilly, 14.
  A Book of Bungalows; High Costs and Building; A Practical Pocket Book, 77.
  Building Construction Drawing, 138.
  Smithsonian Institution Reports, 278.
  An Engineering Pocket Book; London Master Builders' Handbook; Oil Fuel in the Kitchen Range, 335.
  An Electrical Pocket Book; Batty Langley Revived; British Scientific Instruments, 390.
  The Story of the Glasgow Institute, 495.
  Authentic Mouldings, 541.
  Modern Painting; Eighteenth-century Ceilings; The Art of Lettering; Picture Backgrounds; The Fixing of Steel Windows; New Town Planning Regulations, 589.
  What you Want to Know, 622.
  Italian Furniture, 708.
  Planning and Equipment of Laboratories, 767.

Bowman, Mr. G. F., 170.
Brangwyn, Frank, Illustrated, 227.
Brickwork, Possibilities in. By Nathaniel Lloyd, O.B.E., 296.
Bridge Approach, An Architectural, 411.
Bristol Architect, Distinction for, 140.
Bristol School of Architecture, The. Some Impressions of the Opening, 781.
Builders, Grants to Private, 613.
Builders, Annual Dinner, Institute of, 335.
"Building a House." By H. M. Fletcher, M.A., 753.
Building Acts, An Indictment of Stereotyped. By Alban H. Scott, 527.
Building Boom in the City, 227.
Building Conversion and Modern Requirements, 412.

BUILDING EXHIBITION, THE, 214.
  Architects' Club at, 278.
  Preliminary Survey and Notices of Exhibits, 424.
  Plea for Improved Planning, A. By A. E. Richardson, F.R.I.B.A., 462.
  Fixtures and Arrangements, 464.
  Notes on Exhibits, 466, 513.
  Opening Ceremony, 496.
  The Stands Aesthetically Considered. By Fredk. Chatterton, F.R.I.B.A., 497.
  A Woman Walks Round. By Eu. N. B., 498.
  Modern Construction and Equipment as Revealed at: Brick and Tiles, by A. B. Searle, 503; Concrete Construction and Machinery, 505; Gas Equipment, 507; Electrical Equipment, by S. M. Hills, A.M.I.E.E., 509.
  Paints, Colours, and Varnishes. By A. S. Jennings, F.R.I.B.A., 510.

BUILDING EXHIBITION, THE (*cont.*):
  Sanitary Goods. By Nandy Hoskins, M.S.E., M.R.San.I., Pres.I.S.E., 511.
  Architects' Welcome Club Reception, 528.
  Heating and Ventilating. By W. W. Nobbs, 542.
  Contractors' Plant and Equipment, 543.
  Newer Materials. By H. Milnes Emerson, A.R.I.B.A., 544.
  The Architects' Welcome Club Dinner, 558.
  Building Trade Employers at Olympia, 568.

Building in Scotland, High Cost of, 323, 432, 599.
Building, Insurance in Relation to. By J. P. Lloyd, 643.
Building Materials, The Utility of Research on. By Alan E. Munby, 521.
Buildings, Surveyors' and Inspectors' Association, 96, 691.
Building, The Cost of, 227, 783.
Building, The Ellis School of, 541.
Building, The Measure of Output in, 361.
Building Trade, Wages in the, 622.
Business Premises: Increase of Rent and Mortgage Interest (Restrictions) Act, 1920. By Archibald Safford. 763.

CALENDARS, 111.
Cardiff Appointment, A, 390.
Cardiff Docks, New Office Buildings, 648.
Carisbrooke Church Bells, The Recasting of, 572.
Central Heating of Dwelling Houses, 390.
Cheam, Surrey, House at. By Cross and Cross, Architects, 158.
Chester War Memorial Competition Award, 111.
Chimney Stack, Abolition of the, 337.
Chippendales, The. By Aero, 288, 315, 347.
Christmas Celebrations in a Varnish Factory, 28.
Christmas Party, A, 84.
Cinema Theatre, A Leeds, 305.
Cities, The Spirit of. By William Haywood, F.R.I.B.A., 9.
City, Building Boom in the, 227.
City Churches, R.A., and the, 347.
City Corporation, Housing and the, 54.
Civic Education League, 431.
Civics, Summer School of, 432.
Clynes on Housing, Mr., 782.
Comedy with an Architect, A, 15.
Coming Events, 474, 770, 812.
Competition Designs, The R.I.B.A. By James Burford, A.R.I.B.A., 89.
Competition Handicaps. By William Haywood, F.R.I.B.A., 760.

COMPETITION NEWS—
  Lockerbie War Memorial; R.E. Memorial; Licensed House; Temple of Memory; East Ham General Hospital; Canadian War Memorials; Glasgow High School, 22.
  Lockerbie; R.E. Memorial, Chatham; Licensed House; East Ham General Hospital; Canadian War Memorials; Glasgow War Memorial, 56.
  Lockerbie; R.E. Memorial, Chatham; Licensed House; East Ham; Canadian War Memorials; Glasgow, 111.
  Burton-on-Trent High School; Llandudno War Memorial; The Guards Memorial; R.E. Memorial, Chatham; East Ham General Hospital, 142.
  Rothesay; Campbeltown; R.E. War Memorial, 170.
  Glasgow; Gateshead, 200.
  Lockerbie; Rothesay and Leigh; Ideal Public House; Society of Architects; Glasgow, 222.
  Lockerbie; London County and Westminster Bank, Lothbury; East Ham General Hospital; Renfrew and Rothesay War Memorial, 356.
  R.E. War Memorial, 582.
  Canadian Battlefields Memorial, 661.
  New Hospital Buildings at Cairo; North Wales Heroes' Memorial; Wolverhampton War Memorial; Birmingham Hall of Memory; Wandsworth Park; Leamington War Memorial, 784.
  New Hospital Buildings at Cairo; North Wales Heroes' Memorial; Wolverhampton War Memorial; Birmingham Hall of Memory; Wandsworth Park; Halifax War Memorial; Camberly War Memorial, 811.

Concerning Libraries. By Aero, 34.
Concrete Construction for Houses, Improved Methods of, 366, 384.
Concrete, Securing Impermeability in. By S. Andrews, B.Sc., 295.
Concrete, The Modulus of Elasticity of. By Professor F. C. Lea, O.B.E., D.Sc., M.Inst.C.E., 627.
Conradé, A. C., Exhibition, An, 638.
Conradé Exhibition, The, 721.

CONSTRUCTION—
  15.—New Grain Silo for the Merchants' Warehousing Co., Ltd., Dublin, 16.
  15a.—Reinforced Concrete Lock Gates at Tilbury Docks. By H. Deane, B.E., M.Inst.C.E., M.Inst.M.E., 50.
  16.—The Construction and Stone-cutting of Lunette and Cylindrical Vaults, 191.
  17.—"Girderless" Floors, 329.
  18.—A Model Textile Factory, 600.

Constructional Machinery, Demonstration of, 337.
Contemporary British Architecture, About, 319.
Continental Buildings. By Dr. Douglas Stanley, 96.

CORRESPONDENCE—
  Architectural Appointments Abroad, by C. McArthur Butler; Architecture and the Public, by John M. MacFarlane; "The Art of E. A. Rickards, by Edmund J. Sullivan and G. Ll. Morris, 13.
  The Architects' Benevolent Society, by J. W. Simpson; A Rickards Monument, by V. J.; The Art of A. E. Rickards, by Patrick Abercrombie, 44.
  Architecture and the Public. By J. Herbert Jones, 77.
  Architectural Students' Competitions. By Robert Atkinson, F.R.I.B.A., 198.
  Importance of Washing Sand, by Kerner Greenwood; Architectural Students' Competitions. By Arthur Keen, 215.
  Architectural Students' Competitions, by Robt. Atkinson; The Assistant and Others, by C. McArthur Butler; St. George's Chapel, Windsor, by Dean of Windsor, 277.
  The Architects' Assistant, by Henry Hyams; Architecture and the Public, by Ernest A. Willson; Maintaining Church Fabrics, by Dean of Windsor, 301.
  Architecture and Commerce, by Gilbert Scott; Architectural Education, by Lionel B. Budden; The JOURNAL Plates, 334.
  Architecture and Commerce. By H. M. Fairweather, 397.
  Central Heating of Dwelling Houses, Cut Brickwork, 415.
  Taste in Architecture. By C. McArthur Butler; Building Trades Exhibition, "Improved Planning," by H. Greville Montgomery, 545.
  Building Contracts; Birmingham Housing Director's Report. By Ian MacAlister, 557.
  "Seed Thought" and Design; The Builders' Clerks' Benevolent Institution; Books on Quantity Surveying, 582.
  The Architects' Benevolent Society, by Messrs. Simpson, Ruthen and Scott; Registration; Advertisers and the Architect, 659.
  Architects and ex-Service Students. By T. P. Bennett, 680.
  Registration. By Thomas, 720.
  Unification and Registration Committee; Mr. Roger Fry's "Five o'Clock"; Mr. Chas. MacLachlan; Architects and ex-Service Pupils, 753.
  Housing Fees; Stage Devices, 783.
  Office Experience for Students, by T. P. Bennett; Unification and Registration Committee, by Arthur Keen, 809.

Cost of Building, The, 783.
Cost of Building Committee, 111, 227.
Costing for House Construction, 531.
Cottage Hospitals, The Design of. By H. Percy Adams, F.R.I.B.A., 363.
Cottages and their Construction, £600, 655.
Country House and Institutional Sewage Purification. By Jas. Edw. Tuke, 632.
Cox, The Late Mr. E. D., 195.
Ctesiphon, Palace of the Chosroes. By E. P. Warren, F.S.A., F.R.I.B.A., 291.
Cunard Building, Liverpool. By W. E. Willink, M.A., F.R.I.B.A., 185.

DESIGN AND CONSTRUCTION OF STRONG ROOMS, THE, 252.
Design in Reinforced Concrete, 621.
Design of Banking Premises, The. By Aero, 233.
Design of Cottage Hospitals, The. By H. Percy Adams, F.R.I.B.A., 363.
Determination of Floor Loads for various Buildings. By A. Van Ossenbruggen, 713.

523715

Discoveries at Glastonbury Abbey, 196.
Dominican College Chapel, Dublin, The, 415.
Dublin Custom House, 719.
Dulcote War Memorial, 56.
Dynamic Symmetry in Ancient Architecture. By Jay Hambidge, 301.
Dye Works at Perth, New, 800.

EASTEN, MR. STEPHEN, AND THE MINISTRY OF HEALTH, 10.

East Ham Hospital Competition, 376.
Edinburgh Architectural Association, 163.
  Story of the, 650.
"Efficiency" Exhibition, The, 199.
Eighteenth-century Fireplaces. By Aero, 151, 182.
Ellis School of Building, The, 541.
Employer as Educator, The. By E. J. G. Alford, M.A., Cantab., 92, 118.
English Forestry Association, 631.

ENQUIRIES ANSWERED:
  Quantity Surveying; Qualifications for A.R.I.B.A.; Reinforced Concrete Bridges, 26.
  Formulæ and Structural Mechanics; Wall Lining for Chill Rooms; Damp Concrete Floor; Painting a Radiator; Composition Flooring, 41.
  Building Trade Wages; Finishing Floors; Gloss, Semi-Flat and Flat Finishes; Rejection of Plans by a Corporation, 78.
  Concrete Block Construction; Acid-Resisting Treatment for Concrete; Weather-proofing on Upper Story; Hoods for Architectural Degrees; Jointless Flooring, 109.
  Ellesworth Burner; Removing Cement Splashes from Bricks; Finishing Floors; Decorating a Stucco Front, 141.
  Dark Rough Red Pantiles; Surveyors' Institution and Quantity Surveyors' Association; Cinema Balcony and Screens, 165.
  Current Prices of Timber; Distempering a Chapel; Coloured Drawings; Woodworm in an Oak Church Roof; Estimating the Cost of a Building, 215.
  Manufacture of Metal Skylights; Names on War Memorials, 302.
  Enamels for House Exteriors; Weatherproofing Cottage Walls; Plate Girder Design, 323.
  Strength of Spandrel Stone Staircase; Consulting Engineers' Fees for Cinema Work; Outside Sun Shutters, 365.
  Calculating Reinforced Concrete Floor Materials; Concrete Floor for a Butter Factory, 394.
  Prices of Building Materials and Labour; Rift Sawn Flooring, 432.
  Stained Woodwork and White Pebble Dash; Ryders' Scale of Surveyors' Fees, 487.
  Books on Architects' Working Drawings; Moisture on Walls and Ceilings; Heating a Cinema, 557.
  Rust in Hot Water Supply; Whitewash for Cement Face; Cinema Theatres and Restaurants; Cost of Cinema, 601.
  A Question of Contract, 655.
  Books on Quarrying; Stopping Holes in Oolite Stone; Fixing Wall Tiles, 810.

Essay Competition Awards, Students' Prize, 99.
Ethics and Industry, The Better Way in, 637.
Exhibition of Rickards' Drawings and Sketches, An, 163.
Exhibition of Water-colours, An, 752.
Expeditious Building, A Photographic Record, 438.
Ex-Service Men for Housing Schemes, 660.

FAÇADE OF THE YEAR, A PRIZE FOR THE BEST. By ALLEN FOXLEY, 728.

Fame and the Architect, 787.
Fashions in Architecture. By H. S. Goodhart-Rendel, 782.
Fireplaces, Eighteenth-century. By Aero, 151.
Firm, What is a? By E. J. G. Alford, M.A., Cantab., 5.
Floor Collapse, Verdict of Accidental Death, 561.
French Architecture, History of. By Sir Reginald Blomfield, 685.
Friday Clubs' Exhibition, 446.
Fry's Belated Fallacies, Mr. By J. F. McR., 667.
Fuel and Finance, 753.
Fuel Efficiency, 650.
Fuel Oil and the Future, 662.
Fume. Chamber and H_2S Compartment, 659.
Future Planning of London, The, 407.

GALLERIES IN SCIENCE LECTURE THEATRES, 737.

Galvanised Iron Industry, 223.
Garden Design and Construction. By Frank Hodson, Junr., 26.
Geology of Constructional Stone, The. By J. Allen Howe, O.B.E., F.G.S., M.I.M.M., 137.
Georgian Period Mouldings, Some Typical, 541.
"Girderless" Floors, 329.
Glasgow Cinema, A, 599.
Glastonbury Abbey, Discoveries at, 196.
Glenelg Memorial, The, 119.
Gosport Memorial Hospital, 806.
Grants to Private Builders, 54, 613.
Great Barr Colony for Mental Defectives, 72.
Great Northern Hospital Bazaar, 622.
Guild of Builders. By Malcolm Sparkes, 383.
Guild System in Housebuilding, Statement by the Ministry of Health, 37.

HAMBIDGE, MR. J., AND THE R.I.B.A., 226.

Hampstead, Proposed New House at, 561.
Hare, The Late Mr. Henry T., 61, 96.
Health, Ministry of, and Mr. Stephen Easten, 10.
  And Air Pollution, 690.
Heat Conservation and Wall Construction, 571.
Heresies of a Painter, The, 661.
Hertford, Eighteenth-century Houses at, 407.
High Tension Steels in Reinforced Concrete Design. By H. Kempton Dyson, 110.
History of French Architecture, Sir Reginald Blomfield's, 685.
Hotel at York, Proposed New, 572.
Houses, Adapting Old, to Modern Requirements. By G. Ll. Morris, 417.
Houses Built to Suit Women, 631.
Houses for the Working Classes, 602.
Housing and the City Corporation. By Eugene C. Beaumont, M.S.A., 54.
Housing and Town Planning, 691.
Housing Experiments at Walsall, 395.
Housing Fiasco, The National. By Kenneth M. B. Cross, M.A., Cantab., 639.
Housing in China, 663.
Housing in Scotland, 810.
Housing Policy of the Future, 780.
Housing Report, Weekly, 54, 111, 168, 196, 227, 305, 334, 367, 432, 574.
Housing Schemes, Progress of, 15, 54.
Housing, Women and, 226.
Human Nature in Industry: A Psychological View. By IE. J. G. Alford, M.A., Cantab., 5.
  1. What if a Firm? 5.
  2. Like Master Like Man, 33.
  3. Why do we Work? 64.
  4. The Employer as Educator, 92, 118.

IMPERIAL BUILDING: THE LESSONS OF ROME. By W. G. NEWTON, 152.

Impermeability in Concrete, Securing. By Ewart S. Andrew, B.Sc., 295.
Improved Methods of Concrete Construction for Houses, 366, 384.
Indictment of Stereotyped Building Acts, An. By A. Alban H. Scott, 527.
Industrial Council for the Building Industry, 199.
Industrial Fatigue and the Remedy. By Charles S. Myers, M.D., Sc.D., F.R.S., 68.
Industry, The Architect's Interest in the, 115.
Instinctive Craving for Beauty, The, 371.
Insurance in Relation to Building. By T. P. Lloyd, 643.
Interlocking Steel Plate Construction, 264.
Is Architecture Worth While? By Paul Waterhouse, M.A., F.R.I.B.A., 123.
Inventions, Latest List of New, 170, 227, 280, 307, 545, 574, 633, 663, 692, 721, 780, 810.

JAEGER MACHINERY, 337.

KAHN SYSTEM ILLUSTRATED, 100.

LABOUR WAGE FLUCTUATIONS, A "PERCENTAGE" METHOD OF ADJUSTMENT. By W. PARRY-JONES, 647.

Land Settlement, Building Work of the Ministry of Agriculture and Fisheries. By Sir Lawrence Weaver, K.B.E., F.S.H., Hon. A.R.I.B.A., 460.
Land Subsidence and its Effect on Concrete and other Structures. By Lawson S. White, A.M.C.I., A.M., Inst.C.E., 718.
Lasteyrie, Death of M. de, 323.
Law Courts at Westminster, Sir John Soane's, 373.

LAW REPORTS—
  Dilapidations: Surveyor's Report (Foster v. Prodfer); Surveyor and His Fees (Stenning and Partners v. Standard, etc., Shipbuilding Co.), 10.
  Builder's Claim (Simpson v. Staines), 44.
  Action by a Builder (Palmer v. Kensington Maisonettes, Ltd.), 111.
  Duties of Architects (Marsh v. Hider), 134.
  Repairs: Notice under Covenant (Hawkins v. Specterman); Builder's Claim for Work (Palmer v. Kensington Maisonettes, Ltd.); Rightsof Builder's Foreman to Pledge Credit (Engert and Rolfe v. Hayward and Wooster), 197.

LAW REPORTS (*cont.*)—
  Contract for Delivery of Bricks (Saunders v. Pagett and Swain); Builder's Heavy Claim (Stobald v. Thornley); Builder's Joint Account (Hocking v. Drew), 306.
  Architect's Claim (Norfolk and Prior v. Pilmore Bedford), 396.
  Builder's Claim, Repairs to a House (Corke v. Highett); Architect's Claim for Fees (Ridges v. Sole, Ltd.), 487
  Contract for Roads: Adjustment of Prices (Iles v. Merton and Morden U.D.C.), 541.
  Heavy Claims for Structural Alterations and Repairs (Hampton and Sons v. Munroe), 568.
  Contractor's Claim (Hampton and Sons v. Monroe), 662.
  Action by an Architect (Saunders v. Beadel); Builder's Claim (Clements (Grays), Ltd. v. Sanders), 690.
  Balance of Builders' Account for House (Lavington (1916), Ltd. v. Winch; Builders' Claim for Balance of Rent (H. J. Cooper and Sons v. Fisher), 719.
  Action against Building Co. (Harris v. Central London Building Co., Ltd.); Surveyor's Claim Against an Architect (Chant v. Ospolak), 770.
  Heavy Claim by Architect and Surveyor (Sharp v. Elkin, Son, and Percival, Ltd.); A Liverpool Compensation Case, 809.

Leeds Cinema Theatre, A, 305.
Libraries, Concerning. By Aero, 34.
Libraries, English. By Aero, 63.
Library and the Architect, The, 549.
Licensed House Competition, The, 343.
Like Master Like Man. By E. J. G. Alford, M.A., Cantab., 33.
Lincoln Memorial, Washington, The, 314.
Lingering of Tradition, The. By A. W. J., 610.
Liquid Fuels Research Association, 324.
Liverpool School, Work of the, 582.
Llandudno War Memorial Competition, 120.
Locke on Architectural Neglect, Mr. William J., 796.
London Group, The, 661.
London, The Future Planning of, 407.
London's New County Hall—
  Progress of the Work, 450.
  Steelwork in the New London County Hall, 488.
  Contractors, 531.
London University School of Architecture, 795.
Lunette and Cylindrical Vaults, The Construction and Stone-cutting of, 191.

MAKING HIGH WAGE RATES PRACTICABLE. By CHARLES CRESSEY M.S.A., 648.

Manhattan Suspension Bridge, Architectural Approach to, 411, 412.
Master, Like Man, Like. By E. J. G. Alford, M.A., Cantab., 33.
Measure of Output in Building, The. By T. Sumner Smith, 361.
Measured Drawings, Prizes for, 538.
Mental Defectives, Great Barr Colony for, 72.
Metropolitan Water Board, New Departure, 279.
Ministry of Health and the Guild System in House Building, 37.
Modern Furniture Design and Decoration. By Percy A. Wells, 127.
Modulus of Elasticity of Concrete. By Professor F. C. Lea, O.B.E., D.Sc., M.Inst.C.E., 627.
Motor Coach Station, A, 799.

NATIONAL FEDERATION, ANNUAL MEETING OF, 133.

Nautilus Eaves Terminal, 337.
New Dye Works at Perth, 800.
New Grain Silo for the Merchants' Warehousing Co., Ltd., Dublin, 16, 81.
Newington Causeway, New Quarter Sessions House, 339-362.
New London University Buildings, 43.
New Residential Flats in Park Lane, 764.
News, The Week's, 27, 55, 83, 112, 141, 169, 200, 228, 280, 308, 338, 368, 398, 474, 546, 573, 604, 634, 664, 692, 721, 754, 784, 812.
Newspaper Press Fund, 429.
Northern A.A., New President of the, 629.

NOTES AND COMMENTS—
  Another Housing Crisis; Betterment in 1921; "White Resigns"; An Artless Honours List; Architect as Connoisseur; Art in the Office; Exit the Art for Schools Association; Caricature in Gargoyles; Humanizing Industry, 3.
  Another Building Trade Crisis; A Potent Appeal; Tampering with the Telephone; Lansdowne House Changes Hands; The "Seasonal Trade" Tradition; Unemployment Insurance; Cinema Architecture, 31.

NOTES AND COMMENTS (*cont.*)—
  The Approach to Unification; The National Federation; Mr. Henry T. Hare; The Maze of Streets; Gate Memorials; Chequers on the Chilterns; Cast Down but not Destroyed; Devonshire House and the Green Park; R.I.B.A. Prizes and Studentships; State Interference, 59.
  The Nemesis of Political Housing; Foreign Embassies in London; Expanding Whitehall; The Winner of the Tite Prize; Middlesex Sessions House; The High Cost of Building; Mixture of Periods, 87.
  Building Employers Stand Firm; Is it Worth While; Civic Pride; A Practical Resource, 116.
  The Defeat of Dilution; The Royal Gold Medallist; The Cost of London County Hall; Furniture and Decoration; Competitive Bricklaying; Popular Lectures on Architecture, 145.
  The State and the Building Industry; The Architect's Office; Sir Robert Lorimer, A.R.S.A.; Clean Cities in a Coal-less World; A Garden City for Bureaucrats; The President at the Prize Giving; Technical Education, 173.
  Architect as Ameliorator; London University Site Again; An Ill-chosen Site; Royal Society of British Sculptors; A Link with William Blake; The Royal Exchange Chimes, 203.
  Maintaining Church Fabrics; Bank-Building Design; Employers and Dilution; The Dignity of Business Premises, 231.
  State Interference with Industry; Church Funds and Fabrics; Management Efficiency; Mr. Hambidge's Theories, 283.
  A Menacing Manifesto; How to Lecture on Architecture; London University Site; A Legacy to Posterity; How Fine Art Fares at Bradford; Another Thames Tunnel, 310.
  Temple Bar; L.C.C. Housing Scheme Held Up; The R.A. and the City Churches; Houses and Habits; The Late Lord Moulton, 342.
  The Art of the Theatre; Abolish the National Gallery; Reduction of Wages; Builders in the Coal Pits; Light Castings May Cost Less, 372.
  Canberra, A Lesson in State Interference; The Coliseum at Rome; The Coal Crisis; Doing Things Better; H.R.H., Hon. F.R.I.B.A., 401.
  The Ministry of Health; Coal Economy; Peaceful Penetration Again; The Father of the L.C.C.; Concrete Road Construction; Billingsgate Condemned; Bolt-in-Tun; Higher Buildings for London, 435.
  The Huts in the Parks; Labour and the Building Exhibition; The British Parlour Vindicated; Ancient and Modern Monuments, 478.
  The R.I.B.A. Election Programme; The Cost of Building; Royal Visit to the Building Exhibition; The Queen's Visit to Tothill Street; New Academicians; Present T-Squares; The New Director of Housing, 519.
  Four Government Building Departments; Ex-Service Men as Builders; Building Restrictions to go; The "Empire Memorial" Scheme; Norwich Cathedral War Memorial, 550.
  Architecture and the Press; Museum Design; Working Builders' Secret Circular; The Antiquary and the Art Movement, 578.
  The Versatile Architect; Fabulous Fees(?); The Profession Unanimous for Unity; Educate the Public; The Fitzwillam Museum; Housebreakers in Whitehall; Ex-Service Men and Building, 607.
  In the "West Countree"; Smokeless London; "To Endow Architectural Education; Post Office Poltroonery; An A. C. Conradé Exhibition, 638.
  Further Postage Inflation; Destruction of Gandon's Custom House; "Economizing" on School Buildings; The Guilds and Technical Education, 668.
  Promoting the Unification Movement; Death of Sir Rowand Anderson; Post Office Ineptitude; Ex-Service Men as Builders; The New President of the A.A.; Ex-Service Men as Architects, 696.
  Commerce and Architecture; A University City for Paris; Birthday Honours for Builders; "The Last Word in Post Offices"; Lead Poisoning and the House Painter; Dilution and the Federation; Bristol's New School of Architecture; Belfast Parliament House, 725.

NOTES AND COMMENTS (*cont.*)—
  Institute Policy in the Provinces; Sir E. L. Lutyens, Royal Gold Medallist; The Late Havard Thomas; Music and Architecture; Ken Wood, Hampstead; A Fragonard Exhibition in Paris; An Early Dwelling of Dickens; Dickens' Relics—Perhaps; The Liverpool Conference, 757.
  The King and Queen in Belfast; Street Crossings; Health in the Workshops, 788.

OBITUARY—
  Mr. D. H. Sugden, 28.
  Mr. Edmund Sidding, F.R.I.B.A., 302, 333.
  M. de Lasteyrie, 323.
  Mr. Arthur Hill, F.R.I.B.A., 364.
Office of Works and the Functions of Government, The, 477.
Old Houses of Shrewsbury, The. By H. E. Forrest, 156.
Overcrossing at Street Intersections, 602.

PAINTED WORK, RENOVATION OF. By A. S. JENNINGS, F.I.B.D., 416.
Palace of the Chosroes, Ctèsiphon. By E. P. Warren, F.S.A., F.R.I.B.A., 291.
Papworth, George. By Aero, 212.
Pavilion Cinema Theatre, 680.
Pecksniff, Seth, "The Architect, Artist, and Man." By H. B. Cresswell, F.R.I.B.A., 285, 313.
Period Design, Period Furniture. By Vernon Crompton, F.R.I.B.A., 579.
Picture Theatre, The Design of the. By Robert Atkinson, F.R.I.B.A., 675.
Plumbers Visit Selfridge's New Building, 630.
Popularizing of Architecture, The. By Charles Cowles Voysey, 789.
Possibilities in Brickwork. By Nathaniel Lloyd, O.B.E., 296.
Post-War Church Building. By Sir Charles Nicholson, 680.
Praeneste. A Study for its Restoration. By H. Chalton Bradshaw, A.R.I.B.A., 95.
Praeneste, "Restoration" of. By H. Chalton Bradshaw, 77.
Presentation of the Royal Gold Medal, 811.
Presentation to Mr. John W. Simpson, 769.
Presidential Address to Students, A. By John W. Simpson, P.R.I.B.A., 147, 173.
Princes House, Kingsway, 613.
Private Builders, Grants to, 54.
Private Building, 15.
Prix de Rome Designs, The, 199.
Prize for the Best Façade of the Year, A. By Allen Foxley, 728.
Professorship and Public Recognition. By H. Bartle Cox, A.R.I.B.A., 733.
Publications Received, 215, 227, 278, 429, 568, 629, 647, 691, 720.

QUARTER SESSIONS HOUSE FOR THE COUNTY OF LONDON, THE NEW, 351.
Qasr el' Aini Hospital Competition, 438, 483.

RAILWAY PRACTICE. By AERO, 6.
Reading Room, Seen in a, 15.
Reading Society of Architects' First President, 156.
Record House Building, 720.
Red Lodge, Bristol, The, 747.
Registration, Unity and, 577.
Registration, Unification and, 609.
Registration, What it Means, 640.
Registration, Unification and, 661.
Reinforced Concrete, Professor F. C. Lea on, 42.
Reinforced Concrete, Design in, 621.
Reinforced Concrete Design, High Tension Steels in. By H. Kempton Dyson, 110.
Reinforced Concrete Lock Gates at Tilbury Docks. By H. Deane, B.E., M.Inst.C.E., M.Inst.M.E., 50.
Reinforced Concrete, The Utility of, 100.
Renovation of Painted Work. By A. S. Jennings, F.I.B.D., 416.
Restoration Work at St. Mary Abchurch, 71.
R.I.B.A.—
  Proceedings, 25.
  New Members, 37.
  Council Meeting, 77.
  Competition Designs, 89.
  Destruction of Serbian Libraries, 96.
  Prohibition of Building, 96.
  Examinations, 134.
  Council Meeting, 139.
  Presidential Address to Students, 147.
  Competitive Designs. By H. P. Burke Downing, 157.
  Council Meeting, 198.
  Proceedings, 226.
  Council Meeting, 278.
  New Members, 302.
  Examinations, 316.
  Proceedings, 336.
  Council Meeting, 423.
  Nomination List, 529.
  Public Lectures on Architecture, 541.
  Council Meeting, 558.
  Annual Dinner Postponed, 599.
  Annual Elections, 618.
  Council Meeting, 622.
  Conference at Liverpool, 720.
  Election Results, 752.
  Council Meeting, 769.
  Conference at Liverpool, 783.
  King and the R.I.B.A., 796.
Rice, Sir Frederick Gill, 737.
Richmond, Sir William, 222.
Rickards, The Art of E. A. By Prof. C. H. Reilly, 14.
Rickards, A. E., Exhibition of Drawings and Sketches, 163.
Roll of Honour Tablet at Bromley, 810.
Rome, British School at, 323.
Rome Scholarship in Architecture, The Need for Reform. By Lionel B. Budden, M.A., A.R.I.B.A., 205.
Rome Scholarship Competitive Designs. By Stanley C. Ramsey, F.R.I.B.A., 175.
Rome, Prix de, Designs, 199.
R.A.—
  Ateliers, 305.
  The, and City Churches, 347.
  "Sending-In" Day, 362.
Rome Prize Designs, The. By James Burford, A.R.I.B.A., 738.
Rome Scholarship in Architecture, 780.
Royal Academy Exhibition: The Architectural Room, 551; The Sculpture Galleries, 552.
Royal Gold Medal, The, 767.
Royal Sanitary Institute Congress, 44.
Royal Sanitary Institute, Folkestone Congress, 805.
Royal Scottish Academy, 714.
Rural Cottages. Common Sense and Architecture. By Sir Lawrence Weaver, 557.

ST. MARY, ABCHURCH, RESTORATION WORK AT, 71, **THORNHILL'S, PAINTINGS AT,** 396.
Salary of the Architects' Assistant, The, 142.
Sand-Washing Apparatus. By L. E. Walker, 138.
Sankey's Annual Dinner, Messrs., 28.
Scotland, Housing in, 810.
Scots College, New Zealand, 558.
Securing Impermeability in Concrete. By Ewart S. Andrews, B.Sc., 295.
Sedding, The Late Mr. Edmund H., 333.
Seen in a Reading Room, 15.
Selfridge's New Building, Young Plumbers' Visit, 630.
Sewage Purification, Country House and Institutional. By Jas. Edw. Tuke, 662.
Shrewsbury, The Old Houses of. By H. E. Forrest, 156.
Silo: New Grain, for the Merchants' Warehousing Co., Ltd., Dublin, 16, 81.
Simpson, Presentation to Mr. John W., 769.
Soane's Old Law Courts at Westminster, 373.
SOCIETIES AND INSTITUTIONS—
  Reading Society of Architects, 139.
  Manchester Society of Architects, 139.
  Royal Institute of Architects of Ireland, 140.
  Royal Sanitary Institute, 140.
  Institute of Scottish Architects; Gothic Architecture; Town Planning Institute; Ulster Society of Architects; South Wales Institute of Architects, 199.
  R.I.B.A.; Birmingham A.A.; South Wales Institute of Architects, 226.
  Birmingham Architectural Association Institute of Scottish Architects; South Wales Institute of Architects, 307.
  R.I.B.A.; Aberdeen Society of Architects; Nottingham Architectural Association; South Wales Institute of Architects; Town Planning Institute, 336.
  South Wales Institute of Architects, 367.
  Architectural Association of Ireland; Proposed New Architectural Association; Birmingham Architectural Association, 397.
  Architectural Association of Ireland, 415
  Northern Polytechnic Institute, 430.
  South Wales Institute of Architects' New President, 461.
  Reading Society of Architects; South Wales Institute of Architects; Devon and Exeter Architectural Society, 537.
  Royal Technical College, Glasgow; Leicester Society of Architects; Reading Society of Architects; Northern Architectural Association; Sheffield Society of Architects, 567.
  Institution of Civil Engineers, 602.
  Bristol Society of Architects, 633.
  South Wales Institution of Architects, 734.
  Berks, Bucks, and Oxon A.A., 737.
SOCIETY OF ARCHITECTS—
  Work of the Past Year, 71.
  Victory Scholarship, 84, 431.
  Proceedings, 139.
Solidarity of Art, The. By W. J. Locke, 221.
Sordid Side, The. By Aero, 580.
Southwark Bridge, The New, 700.
South Wales Home Exhibition, 82.
Southall Houses, Land for, 111.
Speaker, Messrs. G. R., & Co., 301.
Spirit of Cities, The. By William Haywood, F.R.I.B.A., 9.
Spirit of the Renaissance in Architecture, The. By J. T. W. Greenidge, 99.
Spoiling our Towns and Villages. By Raymond Unwin, S.R.I.B.A., 554.
Stage Settings and Dresses. By G. Holt, 691.
Staircase to the Nation, Gift of a, 278.
Steel Plate Construction, Interlocking. By Chubb, 264.
Strong Rooms, The Design and Construction of, 252.
Students' Prize Essay Competition Awards, 99.
Streets of Old London, The, 81.
Summer School of Civics, 432.

TECHNICAL SCHOOLS AND SCIENCE BUILDINGS, 568.
Tenderden War Memorial, 631.
Thornhill's Paintings at St. Mary Abchurch, 396.
Tilbury Docks Reinforced Concrete Lock Gates, 50.
Tilling-Stevens Motor Works, Maidstone, 109.
Tite Prize, The, 1921, 90.
TRADE AND CRAFT—
  Davis Geysers; New Agency, by Messrs. R. W. Lovegrove, 56.
  Doriclite; London County Westminster and Parr's Bank, Ltd., 82.
  Economical Stains; Waterproofing the Chelsea Arts Club; Cement Marketing Co., Ltd., 142.
  Holland, Hannen and Cubitts; Stanley Jones & Co.; Kooksjoie Range, 337.
  The Beaver Link, 367.
TRADE AND CRAFT (*cont.*)—
  Lifts at the Newington Sessions House; A Fine Coat of Arms; Berger's Mercury; Installation News, 397.
  Broad Flange Beams; G.E.C. Change of Address; Simplex Lighting Fixtures; Technical Advertising; Pinchin, Johnson & Co., Ltd., 432.
  Osram and Robertson Lamps; Vitrolite; Reduced Price of Eco Combination, 512.
  Change of Address; British Portland Cement; Satinette Enamel; Bells United Asbestos Co., Ltd.; Paints, etc., at Building Exhibition; Percy C. Webb's Staff Dinner; Steel Construction, 574.
  An Ingenious Glass Fastener; Victor Boilers; Mitchell's Hot-Wash Geyser; Solignum and Internal Joinery; Bell's United Asbestos Co., Ltd., 603.
  Change of Address; Steel Windows, 634.
  Bell's United Asbestos Co., Ltd.; Pivotal Points in Photography; Modern Road Construction, 663.
  Messrs. Tredegar's Outing; Reinforced Concrete Construction; Electric Light Fittings; Gas Economy Leaflets, 754.
  A Useful Telephone Call Booklet; A Book of Concrete Buildings; The Directive System of Street Lighting; Land Subsidence and its Effect on Concrete, 811.
Tradition, The Lingering of, 610.
Training Disabled Men at Cricklewood, 389.
Training the Woodworker. By Alex. B. Mitchell, 324.
Tredegars' Staff Dinner, 431.
Triumph of Archæology, A. By Alex. H. Chalton Bradshaw, 77.
Tuesley Court, Surrey, 128.

ULSTER SOCIETY OF ARCHITECTS, 25.
Unemployment: A Suggested Remedy, 49.
Unity and Registration, 577.
  Unification and Registration, 609.
  Principle of Unity Unanimously Accepted, 661.
University of London, New Buildings, Report, 622.
Untidiness. By Aero, 91.
U.S. Treasury Annexe, Washington, 38.
Utility of Reinforced Concrete, The, 100.
Utility of Research on Building Materials. By Alan E. Munby, M.A., F.R.I.B.A., 521.

VENTILATING, HEATING, AND LIGHTING OF BANKS. By AMBROSE W. COFFIN, M.I.H.V.E., 265.

WAGE FLUCTUATIONS, LABOUR. By W. PARRY JONES, 647.
Wage Rates, Making High Practicable. By Charles Cressey, M.S.A., 648.
Wages in the Building Trade, 622.
Walcot Etchings at Tothill Street, 302.
Walsall, Housing Experiments at, 395.
War Memorial Amphitheatre, A, 524.
War-time Fire Prevention, 767.
Washington, U.S. Treasury Annexe, 38.
Water Colours, An Exhibition of, 752.
West Sussex Rural Housing Scheme, A, 776.
What is a Firm? By E. J. G. Alford, M.A., Cantab., 5.
What is Wrong with Architecture? By C. C. Voysey, 437.
  Some Further Views, 479.
Where Tradition Lingers. By Aero, 669.
Whitgift Hospital, Will it have to go? L. Brook-Partridge, 717.
Why Apple-Green? By Crossley Davies, 449.
Why Do We Work? By E. J. G. Alford, M.A., Cantab., 64.
Williams, Sir Howell J., 769.
Women and Housing, 226.
Woodworker, Training the. By Alex. B. Mitchell, 324.

YORK, PROPOSED NEW HOTEL AT, 572.

ILLUSTRATIONS.

ADAPTATION OF OLD HOUSES, 417.
AMERICAN COLONIAL ARCHITECTURE—
  5.—The Jessup House, Westport, Conn.
Anderson, The Late Sir Rowand, 751.
ARCHITECTS' WORKING DRAWINGS
  24.—United States Treasury Annexe, Washington, D.C. Typical Detail of Façade. Cass Gilbert, Architect, 46, 47.
  25.—Colony for Mental Defectives, Great Barr, near Birmingham, Administration Block. Gerald McMichael, A.R.I.B.A., Architect, 74.
ARCHITECTS' WORKING DRAWINGS (*cont.*)—
  26.—Tuesley Court, Surrey. Details of Garden Front. E. Guy Dawber, F.R.I.B.A., Architect, 130.
  27.—House at Cheam, Surrey. A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, B.A., Architects, 160.
  28.—Capital and Counties Bank, Tidworth, Hants. Edward Maufe, M.A., F.R.I.B.A., Architect, 254.
  29.—Munster and Leinster Bank, Cork. Arthur and Henry H. Hill, Architects, 326.
  30.—Munster and Leinster Bank, Cork. Sections of Staircase Hall. Arthur and Henry H. Hill, FF.R.I.B.A., 326.
ARCHITECTS' WORKING DRAWINGS (*cont.*)—
  31.—Plans of New Quarter Sessions House, Newington Causeway. W. E. Riley, F.R.I.B.A., Architect, 358.
  32.—Munster and Leinster Bank, Cork. Details of Staircase Hall. Arthur and Henry Hill, F.F.R.I.B.A., 386.
  33.—Plans showing the Adaptation of Old Houses to Modern Requirements. G. Llewellyn Morris, Architect, 420.
  34.—New London County Hall. Section through Staircase. Knott and Riley, Architects, 500.
  35.—The New London County Hall. Detail of Pavilion on River Front. Knott and Riley, 534.
ARCHITECTS' WORKING DRAWINGS (*cont.*)—
  36.—Princes House, Kingsway. Detail of Order to Front Elevation. Trehearne and Norman, 624.
  37.—Pavilion Cinema Theatre. Marble Arch Elevation to Oxford Street. Frank T. Verity, Architect, 682.
  38.—Flats at the Corner of Oxford Street and Park Lane, London, W. Frank T. Verity, F.R.I.B.A., Architect 772.
Architectural Association School, Work of the, 316, 17, 19, 20, 21.

ARCHITECTURAL DESIGNS—
  7.—The Tite Prize. Elevation of Winning Design. Gordon H. Holt, 86.
  8.—The Tite Prize. Plan of Winning Design. Gordon H. Holt, 102.
  9.—Work of the A.A. School of Architecture. Greek Composition, 317.
  10.—Work of the Architectural Association School of Architecture. Entrance to Regent's Park, 321.
  11.—Façade to a Branch Library. C. Lindley, 576.
  12.—A Branch Library. D. Brooke, 583.
  13.—A University Senate House. L. A. G. Prichard, 587.
  14.—A Stone Lighthouse. Fr. G. Hines, 786.
  15.—A Riverside Rowing Club. A. C. Macdonald, 793.
  16.—A Riverside Rowing Club. A. C. Macdonald, 797.
ARCHITECTURAL DETAILS—
  6.—Louis XIV Doorway. Impasse des Bourdonnais, Paris, 18, 19.
  6.—A Classical Composition. F. L. Scheult, 569.
  7.—First-Floor Story of the Courtyard of the Louvre, 636.
  8.—From the Sallede l'Institut, Paris. 687.

Arlington Memorial Amphitheatre: Plan and Detail of Principal Entrance, 524.
Armstrong, Mr. E. W., 738.
Art Gallery, Sketch Design for. By Stanley C. Ramsey, F.R.I.B.A., 431.
Auditorium of Orchestra Hall, Detroit, Mich., 676.
Banks, Thomas, R.A., 785.

BANKS—
  of Commerce, Winnipeg, 237.
  Martin's, Euston Road, London, 238.
  Union of London and Smith's, London, 239, 257.
  Small Branch, 241.
  British West Africa, Liverpool, 242, 243.
  Lloyds, London, 245.
  Munster and Leinster, Cork, 247–9, 298, 326, 386, 391.
  Capital and Counties, Tidworth, 250, 254.
  Lloyds, South Shields, 258.
  British Bank of S. America, 266, 267, 268, 289.
  Lloyds, Okehampton, 269, 270.
  Capital and Counties, St. Albans, 271.
  London Joint City and Midland, Stroud, 272.
    All steel interior, Amsterdam, 273.
    Steel fittings for, 274.
  Drying Apparatus, 275.
  Electric and Hand-Power Hoist for, 275.
  Bullion Hoist, 276.
  Semi-indirect lighting for, 276.
  Lloyds Bank, Stockton, 370.
  London County Westminster and Parr's, Westminster, 440–9.

Barn in the Old English Manner, Design for a, 795.
Barry, Edward Middleton, 755.
Barry Garden Suburb, Houses at, T. Alwyn Lloyd, 151.
Birmingham Housing Scheme. Typical Group of Cottages, 572.
Blue Coat School, Hertford. Head Mistresses House, 408.
Boadicea. Historical Group in City Hall, Cardiff, 775.
Bonomi, Joseph the Elder (1739–1808), 475.
Boys' Club, Letchworth, 22.
Bowman, Mr. G. F., 170.
Bradshaw, H. Chalton, A.R.I.B.A., 95.
Bridge of 19 spans at Ashville, 106.
BRIDGES—
  1.—The New Southwark Bridge. Detail of End Abutments, 694.
  2.—The New Southwark Bridge. Detail of Lamp Standard. Sir Ernest George R.A.,F.R.I.B.A., and Alfred B. Yeates, F.R.I.B.A., Architects, 701.
  3.—London, Waterloo, and Southwark Bridges. John Rennie, Architect, 705.
  4.—New Southwark Bridge. Elevation, and Plan. Sir Ernest George, R.A., F.R.I.B.A., Architect; Mott, Hay, and Anderson, Engineers, 711.

Bristol School of Architecture—
  Home of the, 781.
  Opening ceremony at, 781.
Bruce, Thomas, Seventh Earl of Elgin, 201.
Building Trades' Exhibition—
  Plan, 425, 463.
  Organizers of the, 464.
  Position of Olympia, 465.
  Illustrations of Exhibits, 466, 469, 470, 471, 473, 513, 514.
  Opening Ceremony, 496.
  Stands, 497, 498, 504, 506, 509, 542.
Bullant, Jean, 635.
Burnet, Sir John J., 553.
Burton Girls' School Competition. Winning Designs. W. and T. R. Milburn, FF R.I.B.A., Architects, 164, 165, 167.

CANADIAN WAR MEMORIAL, DESIGN FOR. E. A. Rickards, 163.
Canova, Antonio, 605.
Capitol Theatre, New York, 680.
Carnegie Free Library, Dundrum, Co. Dublin, 656.
Carpet Factory, Abbeville. From a drawing by Reginald Blomfield, 689.
Cecil House, St. Andrew's Street, Hertford, 407.
Ceiling Design. An Example of, from George Richardson's "Book of Ceilings," 590.
Central Heating Apparatus, view of house at Boldre, Hants, 393.
Central Library, Hammersmith. Henry T. Hare, F.R.I.B.A., Architect, 62.
Cheam, Surrey, House at. Cross and Cross, 158.
Christmas Celebrations at a Firm of London Building Contractors, 84.
City Façade, Sketch Design for. By Stanley C. Ramsey, F.R.I.B.A., 430.
Colony for Mental Defectives, Great Barr, 72.

Concrete-steel—
  Safe, 261.
  Deposit vault, 261.
  Bullion vault, 263.
Cottage, £600, in Hampshire. L. A. F. Ireland, Architect, 655
Creswell, Mr. H. B., F.R.I.B.A., 287.
Crown Agent for the Colonies War Memorial. J. W. Simpson, P.R.I.B.A., 727.
Ctesiphon, 291.
  Palace of Chosroes, 292.
Cunard Building, Liverpool, 185.

CURRENT ARCHITECTURE—
  54.—View in Pacific Steam Navigation Company's Offices, Liverpool. Willink and Thicknesse, FF.R.I.B.A., Architects, 51.
  55.—The William Booth Memorial Building, Wellington, New Zealand. Stanley W. Fearn and Austin Quick, Architects, 69.
  56.—Llandudno War Memorial Competition. Winning Design. S. Colwyn Foulkes, A.R.I.B.A., Architect, 121.
  57.—Burton-on-Trent Girls' High School Competition. Winning Design. W. and T. R. Milburn, FF.R.I.B.A.,Architects, 165.
  58.—Cunard Building, Liverpool. Willink and Thicknesse, FF.R.I.B.A. and Mewès and Davis, Architects, 183.
  59.—The Dawson Street Club, Dublin. R. M. Butler, F.R.I.B.A., Architect, 223.
  60.—West Africa House, Liverpool. Briggs and Thornely, FF.R.I.B.A., Architects, 243.
  61.—Lloyds Bank, South Shields. Sydney D. Kitson, F.R.I.B.A., Architect, 259.
  62.—British Bank of South America, Moorgate Street. Dunn and Watson, FF.R.I.B.A., 289.
  63.—Wellington Picture House, Leeds. G. Fredk. Bowman and Son, Architects, 303.
  64, 66, 67.—New Quarter Sessions, House, Newington Causeway, London. W. E. Riley, F.R.I.B.A., M.Inst.C.E., Architect, 340.
  65.—The Brewers' Company's Competition for a Licensed House. First Premiated Design. Curtis and Natusch, AA.R.I.B.A., and White and George, AA.R.I.B.A., 345.
  68.—Lloyds Bank, Stockton. Sydney D. Kitson, F.R.I.B.A., Architect, 370.
  69.—East Ham Hospital Competition: Ground Floor Plan of Winning Design. F. E. Mennie and C. B. Smith, AA.R.I.B.A. Architects, 377.
  70.—East Ham Hospital Competition: First-Floor Plan of Winning Design. F. E. Mennie and C. B. Smith, AA.R.I.B.A., Architects, 381.
  71.—Chapel of the Dominican Convent, Eccles Street, Dublin. R. M. Butler, F R.I.B.A., Architect, 413.
  72.—Rebuilding of the London County Westminster and Parr's Bank, Lothbury, London. Mewès and Davis, Architects, 434.
  73.—Rebuilding of the London County, Westminster, and Parr's Bank, Lothbury, London. Detail of Façade. Mewès and Davis, Architects, 434.
  74.—New London County Hall. Detail of Elevation to Belvedere Road, Ralph Knott, Architect, with W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A. 447.
  75.—New London County Hall. Part Elevation to Belvedere Road. 451.
  76.—New London County Hall. Plan of Principal Floor, 456.
  77.—New London County Hall. Ceremonial Staircase, 489.
  78.—Scots College, Miramar, Wellington, New Zealand. Principal Elevation. W. Gray Young, F.N.Z.I A., Architect, 555.
  79.—Scots College, Miramar, Wellington, New Zealand. Main Entrance, 555.
  80.—The New Parade Cinema Theatre, Glasgow. D. McKay Stoddart, F.R.I.B.A., Architect, 592.
  81.—The New Parade Cinema Theatre, Glasgow. D. McKay Stoddart, F R.I.B.A., Architect. View of Interior, 597.
  82.—Princes House, Kingsway, London. Trehearne and Norman, Architects, 611.
  83.—Princes House, Kingsway, London. Detail of Main Entrance, 615.
CURRENT ARCHITECTURE (*cont*).—
  84.—Princes House, Kingsway, London. Front Elevation, 619.
  85.—New Offices for the National Bank, Ltd., Liverpool. T. Arnold Ashworth & Sons, Architects. 640.
  86.—Residential Flats, Regent's Park, London. William Hunt and Edward A. Hunt, FF.R.I.B.A., FF.S.A., Architects, 645.
  87.—Carnegie Free Library, Dundrum Co., Dublin. R. M. Butler, F.R.I.B.A., 657.
  88.—Pavilion Cinema Theatre, Marble Arch, London. Frank T. Verity, Architect, 673.
  89.—The Red Lodge, Bristol. Reception Hall of the Savages Club. C. F W. Dening, F.R.I.B.A., R.W.A., 749.
  90.—Flats, No. 40 Park Lane, W. Detail of Principal Entrance. Frank T. Verity, F.R.I.B.A., Architect, 756.
  91.—Flats. No. 40 Park Lane, W. Front Elevation. 756.
  92.—Flats. No. 40 Park Lane, W. View in Entrance Hall. 756.
  93.—Gosport Memorial Hospital. Plans. Young and Hall, Architects, 803.
  94.—Gosport Memorial Hospital. Detail of Main Front. Young and Hall, Architects, 807.
Custom House, Dublin, after the fire, 699.
Cyles, Henry, 281.

DAWSON STREET CLUB, DUBLIN, 222.
Dening, Mr. C. F. W., F.R.I.B.A., R.W.A., 140.
Deposit Vault, Concrete-steel, 261.

DETAILS OF CRAFTSMANSHIP—
  7.—Wall Tablet in Egton Church, Yorkshire. P. T. Kenwright, Sculptor, 35.
  8.—A Chinese Example.
  9.—Fireplace in Boardroom of Munster and Leinster Bank, Cork. Arthur and Henry Hill, FF.R.I.B.A., Architects, 391.
  10.—Wrought-iron Gate at Bole Hall, near Tamworth, Warwickshire. Measured and drawn by S. Chesney, 485.
  11.—Pewter Candlesticks for St. Barnabas Church, Shacklewell, London, E. Designed by Professor C. H. Reilly, F.R.I.B.A., Executed by H. Tyson Smith, 715.
Diatomaceous Earth Magnified, 571.
Dickins and Jones's Building, Regent St. Progress Photographs, 438, 495, 630, 768.
Dry Rot in Fruiting Stage, Detail of, 521.

EAST HAM GENERAL HOSPITAL, 376–8.
EIGHTEENTH-CENTURY ARCHITECTURE—
  10.—Some Devonshire Examples, 65.
  11.—Two Devonshire Examples, 149.
  12.—Cecil House, St. Andrew's Street, Hertford. Detail of Entrance Porch, 405.
  13.—Two Examples from Hertford, 409

FLATS, AT THE CORNER OF OXFORD STREET AND PARK LANE, NEW BLOCK OF, 763, 764.
Flaxman, John R. A., 1.
Fosse, Charles de La, 575.

FOUNTAINS—
  4.—Fontaine de la Park. Place de Saint-Sulpiece, Paris. Destowenelles and Voinier, Architects, 213.
  5.—Fontaine de la Cour Batave, Rue St. Denis, Paris. Sobre and Happe, Architects, 293.

FRENCH RENAISSANCE ARCHITECTURE—
  1.—Detail of Vaulted Loggia, Cour du Louvre. Percier and Fontaine, Architects, 193.
  2.—The Château of St. Cloud. Le Pantre, Architect, 606.
Frigidarium of the Baths of Caracalla. William Walcot, 153.

GAS INSTALLATIONS, 507, 508.
Girbier, Sir Balthasas, Baron D'Ouvilly, 399.
Gibson, John, R.A., 57.
Glass Fastener for Glasshouses, New Paragon, 603.
Glenelg Memorial, The, 119.
Godwin, George, 547.
Hammersmith, Central Library. Henry T. Hare, F.R.I.B.A., Architect, 62.

HAMPSTEAD, PROPOSED NEW HOUSE AT, 561, 562.
Hare, The late Mr. Henry T., 61.
Heat, Weight, and Strength, comparison of various constructional materials, 571.
Henley Town Hall: Detail of Main Entrance. Henry T. Hare, F.R.I.B.A., Architect, 58.
Hill, Mr. Arthur, F.R.I.B.A., 383.
Holt, Mr. Gordon H., 88.
Housing Inventions by Officers of the L.C.C., 366, 384.

JESSUP HOUSE, THE, WESTPORT, CONN., U.S.A., 221.

KIOSK IN THE COURT OF THE SULIEMAN MOSQUE, CONSTANTINOPLE, 476.

LAW COURTS, WESTMINSTER, THE OLD, 373, 374.
Lawrence, Sir Thos. P.R.A., 229.
Lea, Professor F. C., D.Sc., 42.
Le Sueur, Hubert, 113.
Licensed House Competition. Designs, 343–345.
Lincoln Memorial, Washington, The, 310, 314.
Llandudno War Memorial Competition. S. Colwyn-Foulkes, A.R.I.B.A., Architect, 120.
Louvre, Entrance to the Cour du, 188, 191, 192.
Lutyens, Sir Edwin L., R.A., 302, 767.

MACGILLIVRAY, DR. PITTENDRIGH, R.S.A., LL.D., 759.
MEASURED DRAWINGS—
  6.—Portico of the Masonic Hall, Highbury Street, Portsmouth. Measured and drawn by G. Norburn, 79.
Medici, Lorenzo de (Michelangelo), 85.
Memorial, Roadside, in the Village of Portbury, Somerset. By C. F. W. Dening, F.R.I.B.A., R.W.A., Architect, 49.
Milburn, Mr. T. B., F.R.I.B.A., 629.
Mitchell, Alex. B., 324.
Mitchell's Hot Wash Geyser, 603.
MODERN AMERICAN ARCHITECTURE—
  13.—Essex County Court House, Newark, New Jersey. Cass Gilbert, Architect, 7.
  14.—United States Treasury Annexe, Washington, D.C. Cass Gilbert, Architect, 39.
  15.—Bank of Montreal, Winnipeg. McKim, Mead, and White, Architects, 235.
  16.—The Lincoln Memorial, Washington. Henry Bacon, Architect, 310.
  17.—Hall and Staircase in a House at Southampton, Long Island. Cross and Cross, Architects, 400.
  18.—Library in a House at Southampton, Long Island. Cross and Cross, Architects, 481.
  19.—Memorial Amphitheatre, Arlington, Virginia. Carrère and Hastings, Architects, 525.
  20.—Memorial Amphitheatre, Arlington, Virginia: Section through Stage. Carrère and Hastings, Architects, 529.
  21.—House of ex-President Wilson, Washington, D.C. Waddy B. Wood, Architect, 539.
  22.—Orchestra Hall, Detroit, Mich. C. Howard Crane and Elmer George Kiehler, Architects, 677.
MODERN ARCHITECTURE—
  3.—Building at the corner of Scott St. and Sauchiehall St., Glasgow. Alexander ("Greek") Thomson, Architect, 2.
  4.—Building in Gordon St., Glasgow. Alexander ("Greek") Thomson, Architect, 30.

MODERN DOMESTIC ARCHITECTURE
  24.—The Boys' Club, Letchworth. Barry Parker, F.R.I.B.A., 23.
  25.—Block of Cottages at Bradnich, Devonshire. Charles E. Ware and Son, Architects, 107.
  26.—Tuesley Court, Surrey, The Hall. E. Guy Dawber, F.R.I.B.A., Architect, 125.
  27.—Group of Houses in the Westhampnett R.D.C.'s Housing Scheme, Sussex. J. Dovaston, A.R.I.B.A., M.C.T., Architect, 777.

MODERN ECCLESIASTICAL ARCHITECTURE—
  11.—Handsworth Cemetery Chapel, Birmingham, Interior, looking towards Mortuary. W. H. Bidlake, Architect, 93.
  12.—St. Mary's Church, Highweek, Devonshire. Edmund H. Sedding, F.R.I.B.A., 321.
Monson, Mr. E. C. P., F.S.I., F.R.I.B.A., 27.
Montgomery, Mr. H. Greville and Mr. Hugh C., 464.

MONUMENTAL ARCHITECTURE—
  2.—The Custom House, Dublin. James Gandon, Architect, 666.
  3.—Museum of the Vatican, Rome: The Hall of Animals. From a drawing by James Hakewell, 731.
Motor-Coach Station for the Samuelson Transport Co., New, 799, 800.
Munby, Alan E., M.A. (Cantab),F.R.I.B.A., 521.

NEW LONDON COUNTY HALL—
  Belvedere Road Front from South End, 453.
  General View from Victoria Embankment, 454.
  Detail from Entrance Doorway, 454.
  Basement plan, 459.
  Block plan, 488.
  Roof Steelwork, 491.
  Steelwork of Council Chamber, 491.

NEW LONDON COUNTY HALL (*cont.*)—
  Roof of Block 4a : Steelwork in Roof of, 492.
  Details of Steelwork, 493.
  Details of Fleche, 494.
  Committe Room, 531.
  Corridor on Principal Floor, 531.
  Details of Steelwork in Roof, 532.
  Ground Floor Corridor, 537.
Newton, Lieut.-Col. W. G., M.A., M.C., A.R.I.B.A., 717.
New Parade Cinema Theatre, Meadow Park Street, Glasgow. D. McKay Stoddart, R.I.B.A., Architect, 596.
New Southwark Bridge, The, 700.
  Sir Ernest George's Original Design for, 703.
  Architectural Treatment of Southern Approach to Centre Span, 704.
  Details of Steelwork, 707.
  Details of Granite Seat and Shelter, 708.
New Works for Tilling-Stevens Motors, Ltd. Wallis, Gilbert, and Partners, Architects, 100, 105, 106.

NINETEENTH-CENTURY ARCHITECTURE—
  13.—The Post Office, Fore Street, Devonport. Wightwick, Architect, 11.
  14.—Premises of the British General Insurance Company, Birmingham. Rickman, Architect, 144.
  15.—Bank of England, Liverpool. C. R. Cockerell, B.A., Architect.
  16.—The Town Hall, Stonehouse, Plymouth. John Foulston, Architect, 518.
Nollekens, Joseph, R.A., 665.

OFFICE BUILDINGS AT CARDIFF DOCKS, NEW : Henry Budgrow, F.R.I.B.A., Architect, 649.

PARK CRESCENT, REGENT'S PARK, LONDON : John Nash, Architect, 67.
Pavilion Cinema Theatre, Marble Arch, 675, 679.
Pecksniff's House, Plan of, 286.
Pierce, Mr. S. Rowland, 738.
Portsmouth, Mr. Henry C., F.S.A., 461.
PRACTICAL NOTES FOR ARCHITECTURAL DRAUGHTSMEN : SERIES II —
  Technical Schools and Science Buildings. A. W. C. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, M.A., Cantab, 564.
    1.—Fume Cupboard and Glazed Benches.
    2.—Fume Chamber H_2S Compartment, etc., 652.
    3.—Galleries, 743.
Praeneste : Study for the Restoration of. General View. H. Chalton Bradshaw, A.R.I.B.A., 135.

PRINCE'S HOUSE, KINGSWAY—
  2nd Floor Plan, 613.
  Detail of Main Entrance, 614.
  Detail of Masonry and Structural Steelwork, 617.
  Entrance Hall, 618.
Pugin, Augustus Welby, 517.

QUARTER SESSIONS HOUSE, NEWINGTONCAUSEWAY, 339, 362, 389
Qasr el Aini Hospitál Competition, 483.

RED LODGE, BRISTOL, THE : Restored by C. F. W. Dening, F.R.I.B.A., R.W.A., Architect, 747, 748.
Reinforced Concrete Grain Silo, Dublin, 20, 21, 81, 82.
Reinforced Concrete Lock Gates at Tilbury Docks, 50–54.
Rennie, John, 693.
Rivett, Nicholas, 369.
Rice, Sir Frederick Gill, 737.
Richmond, Sir W. B., R.A., 216.
Roll of Honour Tablet in Bromley Post Office. C. H. B. Quennell, F.R.I.B.A., 810.
Rolls-Royce Co., Bronze Tablet for. W. Reid Dick, A.R.A., Sculptor, 599.
Roman Bath, Plan of Design for a Small, 796.
Romans in the Forum. William Walcot.,
Rome, Prix de : Final Competition Designs, 176–181, 207–11 ; Plans in Final Competition, 728, 739, 740, 745, 746.
Roadside Memorial in the Village of Portbury, Somerset. C. F. W. Dening, F.R.I.B.A., R.W.A., Architect, 49.
Royal Engineers' War Memorial, Chatham. First Premiated Design. Hulton and Taylor, FF.R.I.B.A., Architects, 581, 582.

SAFE, CONCRETE STEEL, 261.
St. Mary Abchurch : Dragon-tie, Showing Decayed Condition, 71.
St. Peter's, Rome. A. C. Conradé, 724.
Salamanca, The Plaza Mayor, 172.
  College of the Irish Nobles, 202.
San Gallo, Antonio da, 143.
Sansovino, Jacopo, 171.
Scot's College, Miramar, Wellington, N.Z.: Ground Floor Plan, 558.

SCULPTURE—
  2.—Symbolical Group : Glenelg War Memorial. Sir Robert Lorimer, A.R.A., F.R.I.B.A., Architect, 114.

Sedding, Edmund H., F.R.I.B.A., 333.
Senate House, Working Drawing of. D. Brooke, 585.
  Design for. R. W. H. Vallis, 586.
Sewage, Purification Plant, 632, 633.
Silo, Reinforced Concrete Grain, Dublin, 20, 21, 81, 82.
Simpson, Mr. John W., P.R.I.B.A., 462.
Smeaton, John, 29.
Smith, Mr. Charles Steward, F.R.I.B.A., 156.
Stained Glass Window for Hornsey Town Hall, 28.
Staircase, Spandrel Stone, 365.
STEEL—
  Safe Deposit, 261.
  Bullion Vault, 263.
  Lockers, 264.

TEMPLE BAR, 347.
Tenterden War Memorial. W. Wrigley Diggle, Architect, 631.
Textile Factory for Messrs. Wm. Hollins & Co., Nottingham. Ernest R. Sutton and Son, Architects, 600.
Tilling-Stevens Motors, Ltd., New Works for, 100, 105, 106.
Tite Prize, The. Winning Design, 86, 90, 91, 102.
Tite, Sir William, 723.
Traffic Problem, The : Overcrossing method as proposed to be adopted at Cleveland, Ohio, 602.
Tuesley Court, Surrey. E. Guy Dawber, F.R.I.B.A., Architect, 128, 130, 133.

UNIVERSITY OF LONDON, NEW BUILDINGS, 43.
U.S. Treasury Annexe, Washington. Cass Gilbert, Architect, 38.

VATICAN, ROME : PLAN OF THE MUSEUM OF THE, 733.
Versailles Cathedral, Side Aisle, 191.
Versailles, Garden Front, North Side, 685, 686.

WALSALL, PAIR OF CONCRETE HOUSES AT, 395.
War Memorial at Dulcote, Somerset, Major A. J. Toomer, Architect, 56.

WAR MEMORIALS—
  12.—Cross in St. Saviour's Church, Eastbourne. Colin Hay Murray, A.R.I.B.A., Architect, 97.
  13.—Design for the Royal Artillery War Memorial, Hyde Park, London. Sir Edwin L. Lutyens, R.A., F.R.I.B.A., Architect ; Professor Derwent Wood, R.A., Sculptor, 548.
  14.—Chester War Memorial. F. H. Crossley, F.S.A., and Thomas Rayson, A.R.I.B.A., Architects, 735.

Warehouse for Messrs. Selfridge & Co., Ltd., Paddington. H. D. Ellis and Clarke, 329, 330.
Washing Sand, Simple Contrivances for, 138.
Wellington Cinema Theatre, Leeds, 305.
Westhampnett R.D.C. Housing Scheme, 776, 779.
Williams, Sir Howell J., 769.
Wilson, House of ex-President, Washington. Waddy B. Wood, Architect, 538.
Wyatt, James (1746–1813), 433.

YOUNG, MR. R. M., F.R.I.B.A., 83.

ARTISTS AND AUTHORS.

ADAMS, H. PERCY, F.R.I.B.A., 363.
Adamson and Kinns, 799, 800.
Aero, 6, 34, 63, 91. 117, 151, 182, 212, 233, 288, 315, 347, 589, 669.
Alford, E. J. G., M.A. (Cantab.), 5, 33, 64, 92, 118.
Andrews, Ewart S., B.Sc., 295.
Ashworth, T. Arnold, and Sons, 641.
Atkinson, Robert, F.R.I.B.A., 675.

BEAUMONT, EUGENE C., M.S.A., 54.
Bacon, Henry, 310, 314.
Bidlake, W. H., 93.
Blomfield, Sir Reginald, 689.
Bolton, Arthur T., F.S.A., F.R.I.B.A., 373.
Boyd, James S., R.I.B.A., 188, 191.
Bowman, G. Fredk., and Son, 303, 304.
Bradshaw, H. Chalton, 77, 95, 135.
Briggs and Thornely, FF.R.I.B.A., 242.
Brook-Partridge, L., 717.
Brooke, D., 583, 585.
Budden, Lionel B., M.A., A.R.I.B.A., 205, 792.
Budgeon, Henry, F.R.I.B.A., 649.
Burford, James, A.R.I.B.A., 89, 738.
Butler, R. M., F.R.I B.A., 223, 413, 414, 657.

CARRÈRE AND HASTINGS, 411, 412, 524, 525, 529.
Chatterton, Fredk., F.R.I.B.A., 497.
Chesney, S., 485.
Chesterton, Mr. G. K., 714.
Cockerell, C. R., R.A., 230.
Chutton, Brock A., 562.
Conradé, A. C., 724.
Cox, H. Bartle, A.R.I.B.A., 733.
Crane, C. Howard, and Elmer George Kiehler, 677.
Cressey, Charles, M.S.A., 648.
Cresswell, H. B., F.R.I.B.A., 285, 313.
Crompton, Vernon, F.R.I.B.A., 579.
Cross and Cross, 400, 481.
Cross, A. W. S., M.A., F.R.I.B.A., and Cross, K. M. B., B.A., 158, 160, 564, 652 742.
Cross, Kenneth M. B., M.A. Cantab., 639.
Crossley, F. H., F.S.A., and Thomas Rayson, A.R.I.B.A., 735.
Curtis and Natusch, AA.R.I.B.A. and White and George, AA.R.I.B.A., 343–5.

DARLING AND PEARSON, 237.
Davies, Crossley, 449.
Dawber, E. Guy, F.R.I.B.A., 125, 128, 130, 133.
Deane, H. J., B.E.,M.Inst. C.E., M.Inst.M.E., 50.
Dening, C. F. W., F.R.I.B.A., R.W.A., 49, 747.
Distournelles and Voinier, 213.
Dewhurst, J. C., F.R.I B.A., 586.
Diggle, W. Wrigley, 631.
Dovaston, J., A.R.I.B.A., M.C.I., 776.
Downing, H. P. Burke, F.R.I.B.A., 157.
Dunn, Watson, and Curtis Green, FF.R.I.B.A , 257, 266, 267, 268, 289.
Dyson, H. Kempton, 110.
Emerson, H. Milnes, A.R.I.B.A., 544.
E. N. B., 15, 199, 498, 640.

FEARN, STANLEY W., AND AUSTIN QUICK, 69.
Field, Horace, F.R.I.B.A., 269, 270.
Fletcher, Henry M., M.A., 753.
Forrest, H. E., 156.
Foulkes, S. Colwyn, A.R.I.B.A., 120, 121.
Foulston, John, 518.
Foxley, Allen, 728.

GORDON, JAMES, 666.
George, Sir Ernest, R.A., F.R.I.B.A., 694, 700, 701, 703, 710, 711.
Gilbert, Cass, 7, 38, 39, 46.
Goodhart-Rendel, H. S., 319.
Goodhart-Rendel, Mr. H. S., 782.
Gotch and Saunders, 272.
Greenidge, J. T. W., 99.

HAKEWELL, JAMES, 731.
Hambidge, Jay, 301.
Hare, Henry T., F.R.I.B.A., 58, 62.
Haywood, William, F.R.I.B.A., 9, 760.
Hill, Arthur and Henry H., FF.R.I.B.A., 247–9, 298, 326, 391.
Hills, S. M., A.M.I.E.E., 509.
Hines, E. G., 786.
Hodson, Frank, Junr., 26.
Holt, Gordon H., 86, 90, 91, 102, 691.
Hoskins, Handy, M.S.E., M.R.San.I., Pres. I.S.E., 511.
Howe, J. Allen, O.B.E., B.Sc., M.I.M.M., 137.
Hunt, William and Edward A., FF.R.I.B.A., FF.S.A. Architects, 645.
Hutton and Taylor, FF.R.I.B.A., 581, 582.

IRELAND, L. A. F., 655.

JENNINGS, A. S., F.I.B.D., 416, 510.

KENWRIGHT, P. T., 35.
Kitson, Sidney D., F.R.I.B.A., 258, 370.
Knott, Ralph, with W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., 447, 489, 531, 532.

LAMB, THOMAS W., 680.
Lea, Professor F. C., O.B.E., D.Sc., M.Inst.C.E., 42, 627.
Le Pantre, 606.
Lindley, C., 576.
Lloyd, Nathaniel, O.B.E., 296.
Lloyd, T. Alwyn, 151.
Lloyd, T. P., 643.
Locke, Mr. W. J., 221.
Lorimer, Sir Robert, A.R.A., F.R.I.B.A., 114.
Lorne, Francis, A.R.I.B.A., 671, 697, 729, 790.
Lutyens, Sir Edwin L., R.A., F.R.I.B.A., 548.

MACDONALD, A. G., 793, 797.
Maufe, Edward, M.A. (Oxon.), F.R.I.B.A., 240, 245, 246, 250, 251, 254, 271.
McKim, Mead, and White, 235.
McMichael, Gerald, A.R.I.B.A., 72, 74.
Mennie, F. E., and C. B. Smith, AA.R.I.B.A., 376–80.
Mewès and Davis, 183–6, 434, 440–449.
Michelangelo, 85.
Millburn, W. and T. R., 164, 165, 167.
Mitchell, Alex. B., 324.
Morris, G. Ll., 417, 420.
Mott, Hay and Anderson, 707, 710, 711.
Munby, Alan E., M.A. (Cantab.), F.R.I.B.A., 521.
Murray, Colin Hay, A.R.I.B.A., 97.
Myers, Charles S., M.D., Sc.D., F.R.S., 68.

NASH, JOHN, 67.
Newton, W. G., M.A., M.C., 152.
Nicholson, Sir Charles, 680.
Nobbs, W. W., M.I.Mech.E., Past Pres. I.H.V.E., 542.
Norburn, G., 79.

OSENBRUGGEN, A. VAN, 713.
Ospolak, Alfred A., 561.

PARKER, BARRY, F.R.I.B.A., 23.
Parry Jones, W., 647.
Percier and Fontaine, 193.
Pite, Professor Beresford, F.R.I.B.A., 238.
Prichard, L. A. G., 587.

QUENNELL, C. H. B., F.R.I.B.A.

RAMSEY, STANLEY C., F.R.I.B.A., 175, 430, 431.
Reid-Dick, W., A.R.A., 599.
Reilly, Professor C. H., 14, 715.
Rennie, John, 695, 705.
Richardson, A. E., F.R.I.B.A., 462.
Rickards, A. E., 163.
Rickman, —, 144.
Riley, W. E., F.R.I.B.A., 339–362.
Rysbrack, John Michael, 309.

SAFFORD, ARCHIBALD, 763.
Scott, A. Alban H., 527.
Searle, A. B., 503.
Sedding, Edmund H., 331.
Selfridge, H. Gordon, 279.
Simpson, John W., P.R.I.B.A., 147, 727.
Soane, Sir John, 373, 374.
Sobre and Happe, 293.
Sparks, Mr. Malcolm, 383.
Stephens and Munt, and Henry Tanner, F.R.I.B.A., 239.
Stoddart, D. McKay, Licen.R.I.B.A., 592, 596, 597.
Sullivan, L. Sylvester, F.S.Qrch. A.R.I.B.A., 614.
Sumner Smith T., M.Q.S.A., F.I. Ar., 361.
Sutton, Ernest R., and Son, 600, 601.

THOMAS, PROFESSOR J. HAVARD R.W.A., 775.
Thomson, Alexander ("Greek"), 2, 30.
Toomer, Major A. J., 56.
Trehearne and Norman, 611, 613, 614, 618, 619, 624.
Tuke, Jas. Edw., 633.

UNWIN, RAYMOND, F.R.I.B.A., 554.

VALLIS, R. W. H., 586.
Verity, Frank T., F.R.I.B.A., 673, 675, 679, 680, 682, 756, 761, 763, 764, 772.
Voysey, Charles Cowles, 437, 789.

WALCOT, WILLIAM, 153, 155.
Walker, L. E., 138.
Wallis, Gilbert, and Partners, 100, 105, 106.
Ware, Charles E., and Son, 107.
Warren, E. P., F.S.A., F.R.I.B.A., 291.
Waterhouse, Paul, M.A., F.R.I.B.A., 123.
Weaver, Sir Lawrence, K.B.E., F.S.A., Hon. A.R.I.B.A., 460, 557.
Wells, Percy A., 127.
White, Lawson S., A.M.C.I., A.M.Inst. C.E., 718.
Wightwick, —, 11.
Willink and Thicknesse, FF.R.I.B.A., 51, 183, 185.
Wood, Professor Derwent, R.A., 548.
Wood, Waddy B., 538, 539.

YOUNG AND HALL, 803.
Young, W. Gray, F.N.Z.I.A., 555, 558, 559.

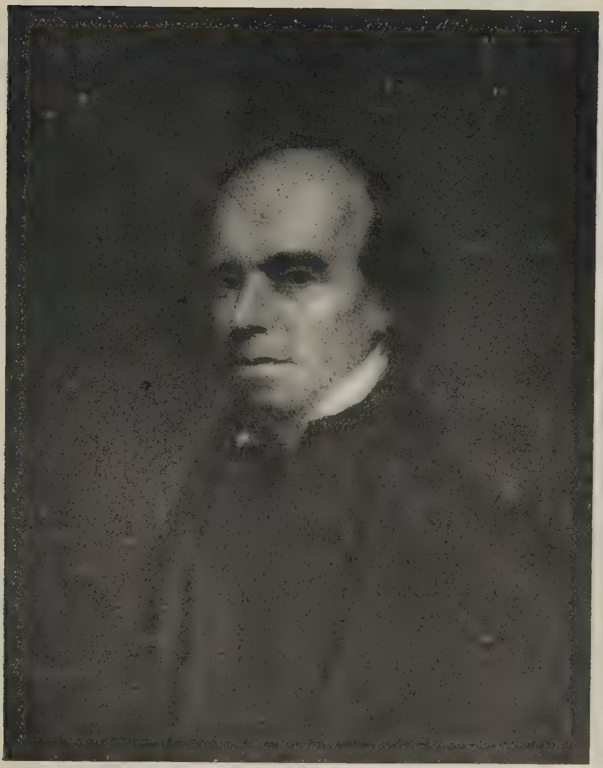
HIS
MAJESTY'S
PRINTERS
E and S
LTD

Wednesday January 5, 1921

Volume LIII. No. 135

THE ARCHITECTS' JOURNAL & *Architectural Engineer*

With which is incorporated "The Builders' Journal"



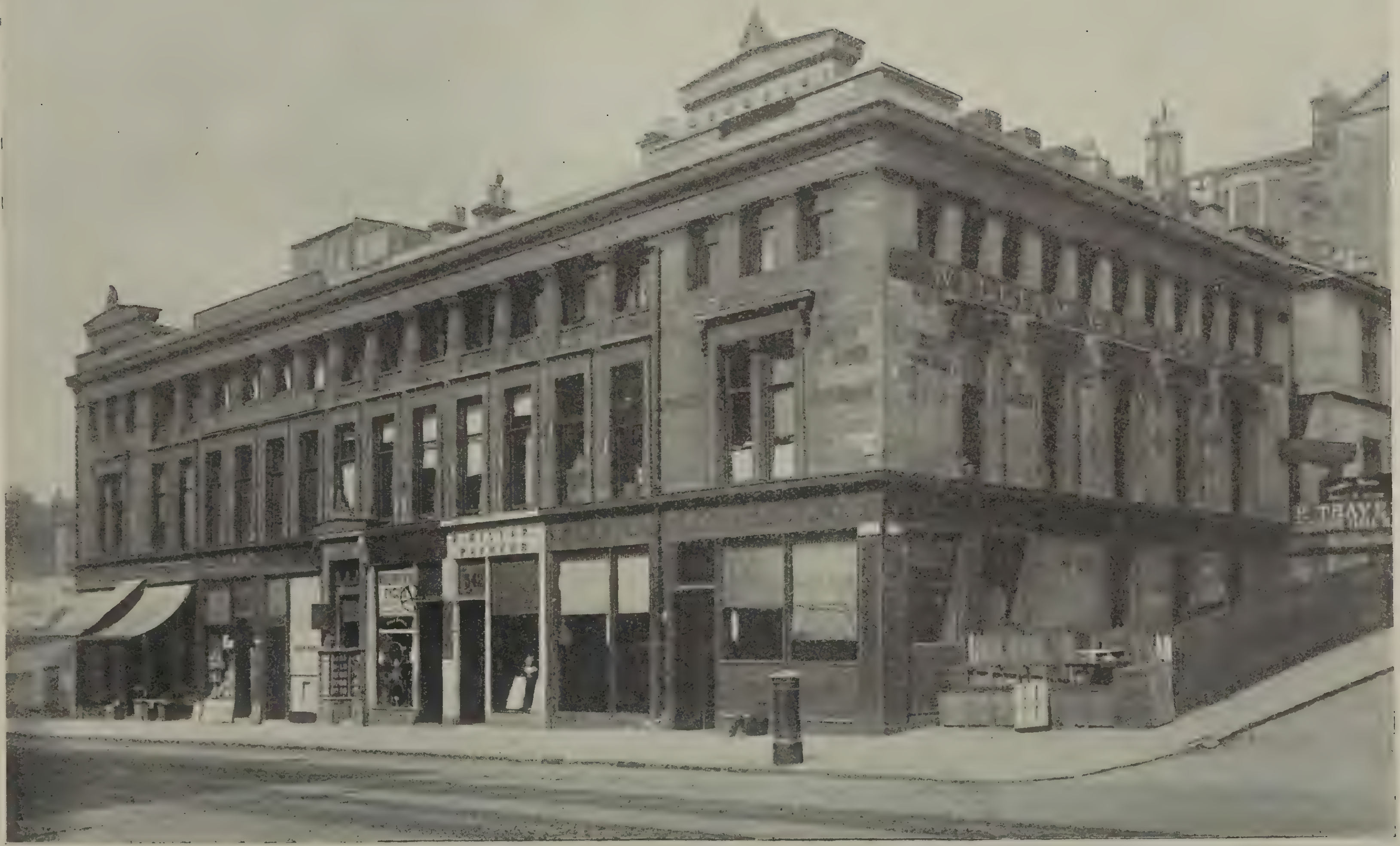
JOHN FLAXMAN, R.A. (1755-1826).

The son of a moulder of plaster casts and figures, Flaxman, born in York, spent his early childhood mostly indoors, drawing and playing with moulds. He won the R.A. silver medal in 1770, and from 1775 to 1787 was occupied in making designs for the chinaware of Messrs. Wedgwood. While living in Italy (1787-94) he prepared his famous illustrations to Homer and other classic literature. The most notable of his later works are monuments to Nelson, Howe, and Sir Joshua Reynolds, in St. Paul's., and to Lord Mansfield and Captain Montague, in Westminster Abbey.

27-29 Tothill Street, Westminster, S.W. 1.

Modern Architecture. 3.—Building at the corner of Scott Street and Sauchiehall Street, Glasgow

Alexander ("Greek") Thomson, Architect



"Greek" Thomson, despite a predilection for exotic detail, much of which is not Greek but rather quasi-Egyptian in character, always adapted his designs to modern requirements. His treatment of the shop fronts in the above example, though marred by latter-day excrescences is essentially modern in idea.

THE
ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, January 5, 1921 Volume LIII. No. 1357

Notes and Comments

Another Housing Crisis

THE announcement last Thursday of the resignation of Mr. Stephen Easten of his position as Director of Housing Production was not unexpected by builders, although it came as a bomb-explosion among the general public. As President of the National Federation of Building Trades Employers, Mr. Easten was bound, by the force of circumstances, to resign either the one post or the other, and he naturally preferred to remain true to his convictions and loyal to the Federation of which he is now the head, and of which he has been for many years an active and a highly respected member, no man having done more to initiate, or to shape and modify its general policy. Realising that the policy of the Ministry of Health was incompatible with some of the most cherished principles of the Federation, he had no option but to adopt the course he has taken. If he had been other than the very incarnation of honesty that his whole career proclaims him to be, he might have continued "to make the best of both worlds" in the hope of being ultimately rewarded with a title, but that was never Mr. Stephen Easten's way. He felt that building-trade employers were being treated unfairly, and he took the very proper course of abandoning a position that from the outset must have seemed hopeless. Instead of improving, it has gone from bad to worse: and when the Ministerial Rake's Progress was seen to include "the wasteful scheme of guild subsidies," Mr. Easten must have felt that it was high time for him to go. He was willing to serve the Ministry of Health until he was forced to believe that, as a matter of statesmanship, there was no health in it.

All this bribing and courting of the coy trade unions is as unwholesome as it is undignified. What is worse, it was utterly unnecessary. If the industry had been released from all Government control as soon as it should have been—say six months after the conclusion of peace—building would by this time have assumed almost its normal condition and nearly its regular rate of progress. There would have been no need to create expensive new Government Departments to muddle the housing movement, no need to demoralise the workers by corruptly bargaining with them, whether by encouraging them to invade, under the guise of guilds, the ranks of employers, or by bribing them to accept "mild forms of dilution," and, moreover, there would have been no need for the Government's bungling interference with so-called "luxury building."

Having no political axe to grind, we by no means rejoice over the embarrassments that must arise from the resignation of Mr. Easten. Indeed, we are sorry that his withdrawal should have become necessary. But we cannot help feeling that so grave a step must convince the Government that its housing policy has arrived at a most serious crisis. Mr. Newton has resigned, Sir James Carmichael has resigned, Sir Charles Ruthen has resigned, and finally there comes the resignation of Mr. Stephen Easten, who has had the courage and the candour to state in considerable detail the reasons for his withdrawal. They are not flattering to the Ministry of Health, which, to do it justice, should never have been entrusted with a business for which it was obviously destitute of every essential qualification. It has offended the whole body of organised master builders without appeasing the trade unions; and its failure to consult the Employers' Federation in matters in which employing builders were vitally interested, and had the fullest right to be considered, is as inexplicable as the early fatuousness of the Government in attempting to ignore the architects who made so patriotic an offer of their services at the very beginning of the war. In following to the lengths that Mr. Easten's resignation indicates that bad old tradition of ignorant self-sufficiency, the Ministry of Health has blundered worse than ever, and perhaps fatally.

Betterment in 1921

Hope runs high for general betterment during the year upon which we have just entered. Unemployment and the excess profits duty are to be abolished, trade is to boom as soon as the Government can bring into play its daringly conceived international credit system, trades unionists are expected to become more accommodating (especially in the matter of "shorter hours and employment for all"), housing will go ahead merrily, and the employers and the building guilds will presently be toasting each other over the festive board. If all these happenings can be accomplished within the brief compass of a twelvemonth, and a few trifles such as Unity of the Profession and an Act of Parliament securing Registration thrown in, A.D. 1921 will be able to show exceptional qualifications as an *annus mirabilis*. We are not deriding the optimists. We think them fully justified—of their optimism.

"White Resigns"

Nevertheless, the "game and playe of the chesse" at the Builders' Parliament has not ended. Doubtless a successor to Mr. A. G. White as secretary can be found, but it will be by no means easy to find an equally competent man. Mr. White, as general secretary for many years of the National Federation of Building Trades Employers of Great Britain and Ireland, has had quite exceptional opportunities for acquiring a richer fund of experience than any other man in the kingdom can possibly possess of all the pros and cons and ins and outs of the relations between employers and employed, and of those opportunities he is competent to take the fullest advantage. Besides knowledge and astuteness, he has all the gifts and graces that make a secretary popular as well as valuable. It is no wonder, therefore, that the Federation feel they cannot spare him for extraneous work. In the time of probably unexampled stir and stress that seems looming ahead, the Federation will require his undivided attention.

An Artless Honours List

In the list of New Year's honours, Art is scandalously neglected. In the list of new knights—in the semi-barbaric age in which we live, it would be futile to look higher for the name of any kind of artist—we find, certainly, an organist and an actor, but from the rest of the names the inference seems plain that it were better to be a mayor, a town clerk, or the Lord Chancellor's brother, than an architect or other artist of distinction. There should be a supplementary list to repair certain glaring omissions that leave the original roll of honour so dull and insipid, not to say squalid.

Architect as Connoisseur

Mr. Robert Atkinson, of whose lecture on "The Architect as a Collector and Connoisseur" a report appears on a later page, is to be congratulated on his choice of subject as well as on his treatment of it. It was a happy idea to turn to the light this facet of the architect's many-sided character. Most architects are (to use a consecrated word) "Kernoozers," generally in secret; and now that their proclivity has been exposed, and even praised, few will be ashamed to confess that they indulge it. What they should really be ashamed to own to is the absence of this really healthy appetite; which condemnation seems to be implied in Mr. Atkinson's remark that the architect's "appreciation of old things might almost be regarded as the measure of his artistic capacity." That is true enough as a generalisation; subject, however, to a liberal discount for exceptions. A man here and there may be able to admire beautiful things without desiring to possess them, but he is assuredly not the "average natural man," and therefore need not be taken into account. Mr. Atkinson is therefore on fairly firm ground in advising that admiration and collection usually go together. Almost any architect's home will prove his case up to the hilt. Few are the architects who can withstand the fascinations of the saleroom and the antique shop, and, having the sweet uses which Mr. Atkinson so alluringly describes, the hobby (which, indeed, deserves a better name) is one that it is a positive duty to encourage.

Art in the Office

Adverting to another aspect of the architect as connoisseur, it occurs to us that he too often confines the display of this quality within the walls of his private dwelling. Too often the adornment of his place of business is utterly neglected, and the client sees there no fine picture, choice bit of china, dainty furniture. nor, in fact, any evidence whatever that the architect is a man of taste. There are, of course, notable exceptions, but these are too rare, and we should greatly like to find it the rule for the architect to do justice to his sense of the beautiful by allowing it to be manifested in the treatment of his reception room. A few good pictures and a little choice bric-a-brac, tastefully disposed, may go far to convince the client that his confidence in the good taste of the architect has not been misplaced. On the other hand, if the ineffective appearance of the room conveys an impression that the architect is careless or indifferent in such matters, a fastidious or timorous client may go further afield in search of outward and visible signs of cultivated taste.

Exit the Art for Schools Association

It was stated last Saturday that on that day the Art for Schools Association ceased to exist. Sir Sidney Colvin and Mr. Laurence Binyon were among the signatories to the circular in which this melancholy announcement was made, and their names are a guarantee that the work of the association was being well done. Although the association had existed for thirty-seven years, it seems never to have had sufficient funds to render it an effective force. Its income, we now read, having dwindled from £300 a year to £60, there was no option but closure. It is a pity that so excellent a society could not have been kept alive through a few lean years, which it might have spent in inexpensive propaganda work. Such effort was never more necessary than it is to-day, when the grosser material needs of reconstruction threaten to obscure the functions of art in life. This reactionary tendency could nowhere be more effectually counteracted than in the elementary, secondary, and public schools, whose indifference to art is only too clearly manifested in their failure to rescue from extinction an association that was endeavouring to promote the love of art in the places where it could be most effectually implanted. Who can deny the bald truism that if every intelligent child were early imbued with the principles of appreciation in art, the ultimate effect on the Mistress Art would be incalculably beneficial. For this reason and on wider grounds we regret that the Art for Schools Association has been allowed to expire without an effort to save it.

Caricature in Gargoyles

At the annual meeting of the National Society of Art Masters, Mr. George Clausen, R.A., said a word that will have delighted Mr. Gilbert Chesterton. It was about gargoyles, a subject which Mr. Chesterton finds entrancing. Mr. Clausen's reference to them had a slightly Chestertonian ring. "He knew," he said, "of a village church where there were some lovely old gargoyles, and the same sort of people could be seen walking about the streets." This observation must have had humour imported into it by the tone in which it was spoken, for it was greeted with laughter and cheers. Yet the fact is of ancient standing. What makes gargoyles so fascinating for Mr. Chesterton and Mr. Clausen, as well as for less distinguished commoners, is the impression of caricature portraiture that a good gargoyle nearly always conveys. Mediæval sculptors took this means of venting sardonic humour or of scoring off persons they disliked; and even modern architects have occasionally adopted this method of "venting their spleen," as the obsolescent phrase has it. For example, it is stated that the architect who, some time in the 'seventies, repaired the tower of Sir Gilbert Scott's finest church—that of St. Giles, Camberwell, which is said to have suggested as Giles the first name of Mr. Giles Gilbert Scott—gave his gargoyles the faces, somewhat distorted, of contemporary publicists, such as Mr. Gladstone and Mr. Charles Bradlaugh. St. Giles's was built between 1842 and 1844 from the designs of Messrs. George Gilbert Scott and W. B. Moffatt. The tower and steeple show Scott at his very best.

Humanising Industry

Speaking on industrial problems the other day, Lord Londonderry remarked that if there were a better standing all round, all our so-called "labour troubles" would disappear. It is a truism that had been foolishly allowed to sink to the dead level of a negligible commonplace. Yet it is a vital factor of the situation, and, as Lord Londonderry implied, it must be studied anew. This week Mr. E. J. G. Alford, M.A., begins an important series of articles in which the relations between employer and employed are treated from a fresh point of view, the author endeavouring to show the potency of the human factor in industry, and to indicate scientific or psychological methods of directing this form of energy into profitable channels. This formidable description may be simplified by stating that the author's aim is to get at the root of "misunderstandings," and to show the true means of substituting harmony for discord, mutual trustfulness instead of mutual suspicion, co-operation and unity instead of antagonism and division. We believe that Mr. Alford's articles will form a very valuable contribution to a vitally important subject.

Human Nature in Industry : A Psychological View

I.—What is a Firm?

By E. J. G. ALFORD, M.A. (Cantab.)

In Mr. Alford's articles which are appearing in this and the next three issues there will be found much to interest the professional man, although they are of still greater importance to the contractor and the manufacturer. The subjects dealt with by Mr. Alford are of vital interest to-day. In the building industry it is being realised that the best results come from accentuating more strongly the idea of co-operation between Architect, Contractor and Operative in their different degrees. It is important that the professional unit in this combination should make his position and influence felt as a helpful, as it is also a dominating, factor. The choice of the Contractor is in the hands of the Architect. It is not enough to-day to know that a Builder can execute good work. The Architect should also know that the firm he employs has enlightened and modern ideas as to the obligations imposed upon it as an employer of labour. In the present article Mr. Alford shows the valuable influence of a strong undercurrent of good-will and incidentally the means of promoting it.

If some such question as "How many persons are there in your firm?" were put to a few hundred business men, the nature of their replies would show various ways of understanding the question. Probably some would put a counter query as to precisely what information was demanded, while others would state only the number of partners, while others again would give the total number of persons, employers and employed, engaged in the firm's undertakings. Put to the managing director of a large joint-stock company, the question in its simple form would almost certainly be unintelligible. Yet the word "firm" is in common use, and has, in fact, a significance of its own, though it is less a significance of content than of quality.

The shareholder, as such, is very rarely a member of the firm; the partner, the director, is, *ipso facto*, a member; the salesman, the clerk, the labourer, may or may not be, according to the conditions of his employment. The shareholder is a member of a *company*, and by objective definition it would be hard to differentiate between the two. But whereas the word "company" in its commercial sense is a mere cold descriptive label, the word "firm" has a colour and warmth of sentiment about it that give it an altogether different effect.

Now herein lies the interest in the potentially dissimilar replies to our original question. If the first idea that comes to mind in response to the word "firm" is a small group of persons directing the operations of a composite machine of men and materials to an exclusively economic use, there is something amiss in the directorate of that firm. It is there that you will be apt to find the intensest conflict between management and labour, the greatest waste of energy in discord between departments, and, technical knowledge and experience apart, the greatest loss of efficiency in the pure matter of production.

If, however, the responsive idea be an organisation of men—and women—with individual and diverse abilities, suitabilities, and training, each and all conscious of a common end and interest in their various occupations, conscious of a tradition extending back from immediate time and of a sentiment projected into the future—it is in these conditions that there will be found the greatest measure of individual and departmental co-operation, the greatest degree of undivided attention on the part of the individual to his specific trade or calling and, technical knowledge and experience again apart, the greatest efficiency in material output.

Technical knowledge and experience apart! The manager who does not know his business obviously will not succeed, in spite of possessing the best will and the most highly developed social consciousness. Moreover, the worker who is inept with his hands or ignorant of his trade will produce nothing by mere pride of profession or by affection for his firm. Skill and intelligence are clearly the first necessary foundations. The argument is simply that in a composite human organisation such as is any modern industrial concern, the consideration of those factors alone is not enough; that there are specific psychological factors, the neglect of which has cost and is costing commerce and industry incalculable time and incalculable money, and the continued neglect of which may land us in industrial bankruptcy.

The loss is not merely material. The strain of industrial warfare destroys the power of enjoyment of life both in and out of working hours through the toxins of anxiety and fatigue. And it is unnecessary.

To the cry of Marx that the interests of capital and labour are unalterably opposed has been raised the counter-cry that they are identical. This is a pointless argument, because our interests are not divine ordinations, but are whatever we like to make them. If my interest is solely in the last penny out of my capital, and the worker's interest is equally in the last halfpenny in his wage, it is clear that Marx was right. If my interest is in the highest standard of living for myself, mine, and the other man, and the worker can say the same, then we can shake hands on the matter and prove that Marx was wrong. But we must decide first what our interests are. "Interest" and "personal economic well-being" are commonly viewed as synonymous terms. If after a few moments' self-analysis we can still adopt them as such, there is no alternative on our part but to vote for industrial warfare, with at the best an occasional interval of truce.

But the sane man will see that though the first term includes the second the two are by no means co-extensive. I say the sane man advisedly, because the confusion of the two meanings merely lends specious rationality to a deep-rooted dissociation of motives, a process which is the foundation of all types of mental derangement.[*] Personal conviction of rationality in such cases is, in fact, not infrequently accomplished by a play upon words precisely similar to the above. The industrial organism of to-day can not inappropriately be said to be mad, and the conflict of motives that is rampant can only satisfactorily be resolved by a larger realisation of what "interest" implies.

A firm must have a group-consciousness of its own, like a nation, a school, a team, a club; a sentiment directed towards itself and the corporate objects of its existence. Only in the function of such a sentiment can co-operation be attained, and the responsibility for its initiation lies with power, in the managerial and administrative staff. If those responsible for the policy and action of a firm do not realise the firm as a social organism, the workers will not either. To throw a sop of philanthropy to the Cerberus of labour and call it welfare is ultimately worse than nothing, for whatever use is made of the facilities offered it will be felt, perhaps only semi-consciously, as an insult added to injury, and the last state of that man is worse than his first. This may seem a hard saying to many who have initiated schemes of improvement and been repaid with nothing but resentment or ingratitude, but to a more detailed consideration of the factors involved I shall return in a further article next week.

---

[*] The interested reader is referred to a non-technical monograph by a highly competent authority: "The Psychology of Insanity." Dr. Bernard Hart. The Cambridge Manuals of Science and Literature.

Architectural Causerie: Railway Practice

It is nearly eighty years since those delectable quarto editions entitled "Railway Practice," designed presumably for the enlightenment of architects and engineers, first excited public criticism. The appearance of such works in the window of Mr. Weale's shop in Holborn in 1839 caused doubtless the same sensation in the professional mind as did the tall-funnelled locomotives that emerged at stated intervals, accompanied by a shower of cinders, from the black depths of Primrose Hill. A new era was opening, especially for architects with a mechanical bent, portending immense possibilities for making money and achieving fame. We all know how matters actually developed. If the truth be entirely known, there is nothing in the contents of old railway books to cause a thrill. Much of the information concerning the angle of repose for cuttings, the nature of the soils, the geological formation of certain parts of England, and various other matters had been already ascertained and put into practice by Brindley, Telford, Tredgold, and others who had not the advantages of the steam navvy; but it is true that information was desired regarding the method of attaching iron rails to stone sleepers, as well as the construction of turn-tables, of engine-houses, gates, and fences, together with various systems of drainage, all of which might be supposed to come within the province of railway practice.

* * *

It was, however, left to the professional architect to design the big railway stations, as well as to standardise types of smaller stations, the fronts to tunnels, and the character of bridges. Unfortunately, Pugin's satires exercised a doubtful influence on some minds, with the result that the architects engaged to assist the railway engineer in the days of the "Mania" performed feats of legerdemain and produced Gothic, Classic, and, for that matter, pre-Classic tunnel fronts, resembling entrances to the nether world.

* * *

This week's chit-chat is not intended to treat entirely of former railway practice. We can therefore dismiss that side of the matter. Philip Hardwick enjoyed the lion's share of the special railway work then going. He could scheme the arrangement of the tunnels in London and Birmingham, provide for the fearsome tunnel entrance on the London side of Primrose Hill, and the pleasant one at the Kilburn end; he or his assistants could dash off sketches for the stations at Watford, Boxmoor, and Tring, some portion of which remain as they were left in 1839. With facility the talented Hardwick conceived the round house for the engines at Chalk Farm—now a bonded store for wine—inspired thereto by his father's measured drawings of the Pantheon at Rome, or he could give his attention to the railway village at Tring, headed by the stationmaster's house.

* * *

Cockerell, journeying in a first-class train to Liverpool to superintend St. George's Hall, via Birmingham and the Grand Junction lines, must have felt his friendship for Hardwick strengthened when he noticed the way his friend had handled such industrial problems. Hardwick had no sooner established his reputation as an expert for railway accessories, when Mocatta produced his Italian renderings for the terminal at London Bridge. Then came Dobson's opportunity at Newcastle, Lancton Wood's masterpiece at Kingsbridge for the Great Southern and Western of Ireland, and Mulvany's granite monument at Broadstone. At this period more importance was attached to the architectural character of a railroad station than to the rolling stock, particularly the designs of passenger coaches, the latter to all intents and purposes reproducing features familiar to the stage coach and post-chaise. Even the designers of locomotives studied classic mouldings in order to give a Doric finish to a funnel. In Paris Hittorff was busy translating his Sicilian researches into terms of superposed Doric for the grandiose front of the Gare du Nord. The extravagance of this architect, although the result delighted the promoters, among whom were the Rothschilds, delayed for some years the construction of the line beyond Compiégne, and caused the rolling stock to become a reproach. We can forgive this architect for his dreaming; does not the main front of the Gare du Nord rank among the good things of the railway age?

* * *

Finally we come to the period when Sir William Tate was called upon to design railway stations in France, between Havre and Paris, followed by the building of King's Cross Station in London in 1854, and sixteen years later by the realisation of Sir Gilbert Scott's Gothic romance at St. Pancras, and the chain of Gothic stations between London and Leicester. This was in the seventies. Previously Lancton Wood had determined upon Italian for the style of the stations between Derby and Manchester.

* * *

These lines have been penned during a journey made through England in a comfortable carriage, accompanied by Mr. Dewhurst, who is architect to the Great Southern and Western of Ireland. My conversation with Mr. Dewhurst centred upon the need for the architectural touch in railway matters, particularly in the direction of minor attributes. He was very interesting. He thought country stations in England could be improved both in plan and conventional treatment. Why, for instance, should the pattern of Clapham Junction be taken as a type suitable for Broad Clyst, or the Halt at Shuntford-cum-Buffer assume the swagger of a suburban station? Mr. Dewhurst was eloquent regarding the design of the modern signal-box. He opined that, although the general proportions of the ordinary signal-box might pass muster, the introduction of finials as well as the inordinate desire for plate glass, no less than the colour of the paint, left much to be desired. Mr. Dewhurst has built many signal-boxes in Ireland, and he informed me that he invariably introduced sash-bars, it being found in practice that the signalmen did not object provided that the quarries were of reasonable size.

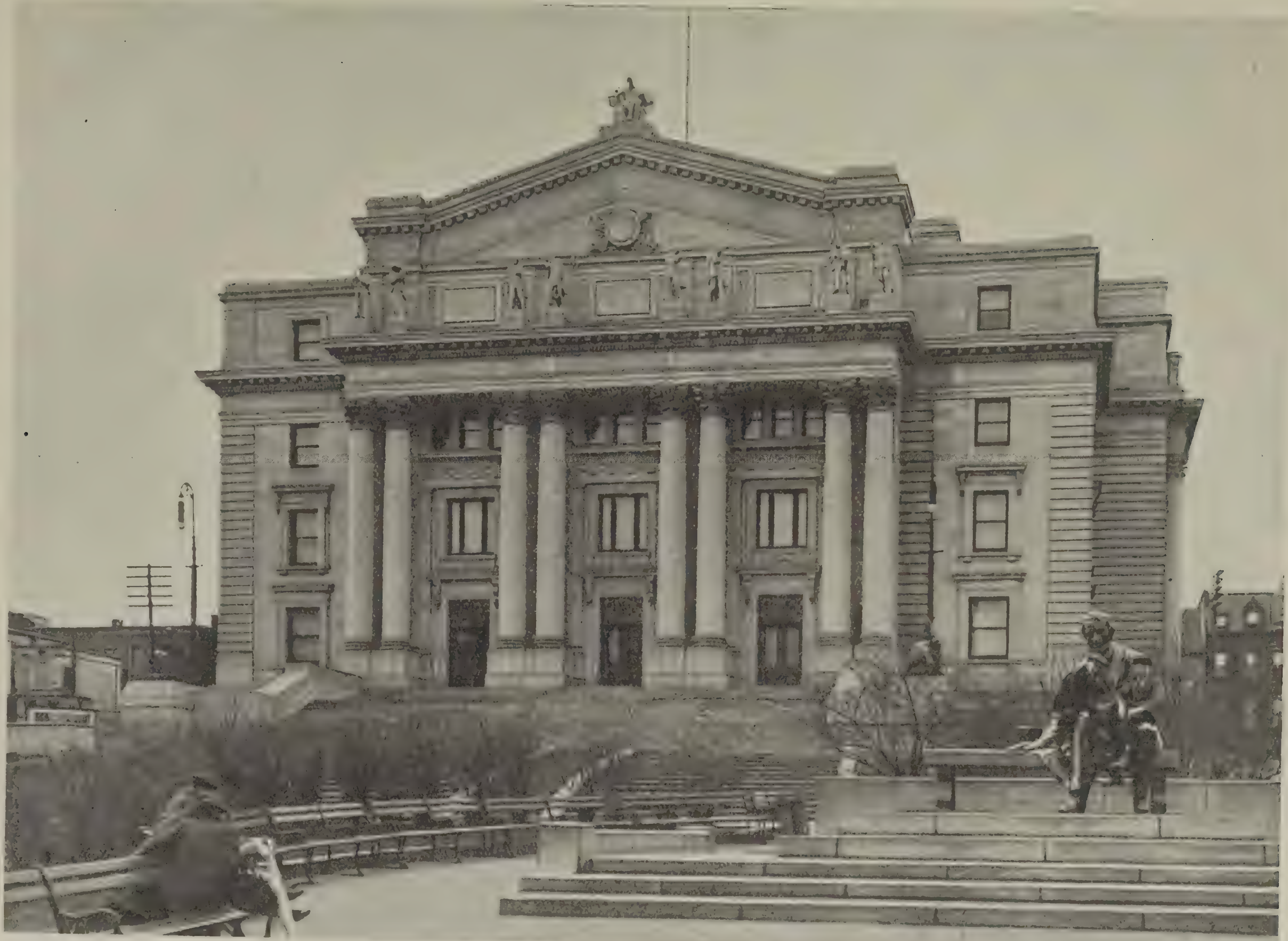
* * *

Now there is a great deal of study required to become a railway architect, and it is a specialised branch of practice demanding a high standard of education. The railway expert must understand gradients, excavating, drainage, surveying; in fact, all the branches of engineering. Should the exigencies of the railroad demand a good viaduct he must be ready with ideas for suitable construction, designed, moreover, to preserve the amenities of the landscape. Brunel was one of the greatest railway engineers of his day, but he never sanctioned a crude design for a bridge or station. It is a custom in these days, particularly true of the leading railway companies in the United Kingdom, to have an architect attached as an assistant to the railway engineer. The position of such an expert attached to another expert who may hold different opinions is not entirely an onerous one. The public appreciate improvements, and are quick to note examples of good taste. With the proposed electrification of the main trunk lines many changes are foreshadowed; therefore, a rare opportunity awaits the young architect with a bent towards railway practice.

AERO.

Modern American Architecture. 13.—Essex County Court House, Newark, New Jersey

Cass Gilbert, Architect



This is another typical example of Mr. Cass Gilbert's work in the monumental manner. The building is constructed of white marble, its dimensions being 143 feet by 182 feet. It is occupied by the Supreme Court of the district and by local courts, the Board of Freeholders, and the officials of the County. The sculpture on the façade was all modelled and executed by Mr. Andrew O'Connor. The seated figure of Abraham Lincoln is by Mr. Gutzon Borglum, and was placed after the completion of the building. The interior of the building contains mural decorations by Edwin H. Blashfield, Kenyon Cox, H. O. Walker, George W. Maynard, Frank D. Millet Howard Pyle, and others. The cost of the building was approximately $1,677,000.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

The Spirit of Cities*

By WILLIAM HAYWOOD, F.R.I.B.A.

IN 1874, or thereabouts, when the French Marshal MacMahon visited Rennes (the capital of Brittany), there was an absence of enthusiasm among the inhabitants which greatly discouraged his political supporters. But to MacMahon the reason was plain enough. "This town," he said, "is not really antipathic towards me, it is merely incapable of enthusiasm. I have remarked that this is the case in all towns where the streets are drawn straight and at right angles one with another. A straight line allows no room for agitation to grow. One noticed this in 1870, that towns with a quite regular plan capitulated before three Uhlans, whilst old cities with tortuous streets were ready to defend themselves to the last extremity."

Whatever political strategy there may have been in this opinion on that occasion, there is enough truth to indicate one of those subtle causes for the personality or spirit which may be detected in most places. A city will be cheerful, cultured, intimate, exclusive, vulgar, or brutal, largely by reason of sensations produced by such a combination as we see expressed in their structure and arrangement, and in this we see scope for the highest attainment of architectural art, which should, in fact, concern itself less with details of building than with the production of an atmosphere which will induce an appropriate state of mind in the onlooker. . . .

In times when home life was primitive more of people's time was spent outdoors. In the public places, or squares, men found the news and transacted much of their business. It was here that the chief ceremonies of public life took place, and it seems appropriate to this use of a square that the traditional effect of enclosure should be sought. But, as to the streets, it is not at all improbable that a defensive precaution, ingrained by ages of personal military conflict, had its share in forming the tortuous approaches to what was often the last rallying place of a beleaguered mediæval city. . . .

While there are a wonderful number of contributory factors which go to increase the variety of moods for which cities are responsible—among which their written history will produce a new view-point in each particular student—we must give first place to the buildings of which they are composed, the manner of their arrangement, the purpose for which they were built, and their degree of success as works of art, when seeking for dominating factors in city expression. . . .

Rome and the Roman

What Rome meant to its citizens may be read in the letter of Belisarius, the Imperial General, to Totila, the city's conqueror, who had threatened it with destruction. "Great cities are not the work of one generation of men, but of countless ages, and surely of all the cities of the world the fairest is Rome, and, therefore, O Totila, should you destroy this city, and should you fail to win this war, what can you expect from us of pity, or mercy, after you have destroyed it; whereas, if you win the war, how sorry you will be that you have destroyed the brightest jewel in your crown." Rome was indeed so living a thing to her citizens that the stones of which she was built came to have no mean share in the destiny of her people.

Views of Amiens suggest a romantic beauty, and the impression of a people, not too ambitious in their private affairs, but proud of the cathedral which represents them collectively.

Stoke-on-Trent favours a different sort of life, and has an atmosphere of its own, in which the church is not so important—in fact, its church is lost in the fogs of its own furnaces. A town of this sort is both wonderful and terrible, its enterprise and evident industry is a cause for pride, but its disregard for the lives of all who must live within the reek of its chimneys is revolting.

Oxford's tradition, its culture, and a not too formal beauty, suggest a happy relation towards life, based upon a long record of scholastic refinement.

Edinburgh is just a little inclined to pedantry. It is cultured, but the more amiable deportment of Oxford is replaced by a severity and precision which do not encourage familiarity. It is a fine but serious fact.

Giant New York

New York is so emphatic in its individual buildings that it has the air of a youthful giant whose limbs are not yet properly under control. Many of its individual buildings, however, are wonderfully fine.

The great Woolworth building, 710 ft. high, is an ideal illustration of the spirit which goes to the building of cities. If it is true that the buildings of a people are a sure index to their character, then a building such as this should come from a forceful and adventurous people, and no one will deny that this is here a true interpretation. It is too assertive, and dominates the neighbouring municipal buildings—which is quite wrong. But I for one would willingly be shocked in this way for the sake of the living force which is expressed so well. One may question the design of some of its massing, but the spirit of the men who conceived it is beyond praise, and for this let us pay tribute to the client even more than to the architect, for while the professional talent of this work is great, it is, after all, the business of an architect to conceive such possibilities, but in such an age as this we should applaud a client who is possessed of so much imagination as to regard the Woolworth building as good business.

A building of this class is a reproach to those dull people, our practical men, who show but little imagination even in the arrangement of their manufacturing processes, and have no eyes at all for the figure they make in the world, when they are seen to be content with vulgar buildings which, as they say without shame, are good enough for them.

One despairs of a business capacity which is so ignorant of the present commercial value of design in the markets of the world. Here is evidence: the Woolworth, and similar buildings in New York, built to pay dividends by a people who are offensively aggressive in the acquisition of dollars and who, at the same time, whether they will or no, add the record of their capacity both for business and for at least one of the arts, to their city's qualities. Some of these buildings in New York are ugly, some are beautiful, but the message in all of them is commercial adventure. . . .

It is said that the Greeks contrived that at the hour of birth—indeed, before the hour of birth—the budding life should be surrounded by shapes of art and beauty which might flower in the subsequent life of their nation. This is a wisdom we have yet to learn. Meanwhile, to take only one of many present possibilities, in the business of beautifying and organising civic recreation alone, to a level which will dictate new standards to the average of private enterprise; there lies enough new thought to effect the regeneration of a people.

But it is from the conversion of the practical man that we have most to expect. It is time for him to fall into line with the new progress. "He must be explained to himself," says Professor Geddes. "It cannot too often be presented in different ways that the self-satisfied practical man who looks down upon all our hopes for the redemption and ennoblement of his industrial and commercial world as mere sentiment is himself the victim of sentiments gone wrong; nay, that his ledger-regulated mind is too often but an obsession of arithmetic, and his life of respectable acquisitiveness.

"Beauty, whether of nature or art, has too long been without effective defence against the ever-advancing smoke-cloud, the machine-blast, the slow progress of paleotechnic industry. Not but that her defenders have been of the noblest; witness Carlyle, Ruskin, Morris, and their many disciples. Yet they were too largely romantic, right in their treasuring of the world's heritage of the past, yet wrong in their reluctant, sometimes even passionate, refusal to admit the claims and needs of the present to live and labour in its turn and according to its light."

The Industrial Towns

Industry, which is the dominating factor in industrial towns, should be their chief attraction. From time to time our manufacturers show their products in special exhibitions, and for this they spend considerable sums of money, but they would do better to make their factories themselves permanent exhibits; it is better business and better civics. Great industrialists—Van Marken in Holland, Ford in America, Cadbury, Lever, and Rowntree in England—have proved the value of industrial civics.

The transport services of industry are as greatly deficient in fit expression as industry itself. The railways and stations of great cities are fascinating in the scope they offer for artistic interpretation, but where is the station in this country that is efficient for its mechanical purposes, not to speak of its complete failure to take on the larger and finer character of the chief portal to a great town.

Modern industrialism has fascinating possibilities of expression if handled with what Professor Lethaby calls "an exquisite common sense," and in time we shall no doubt find a way properly to display the grandeur of the immense activities of our ports, and of those towering silos, cooling towers, and power stations of our period, which in proper hands could so easily be made to express their wonders.

---

* Extracts from a paper read before the Birmingham Architectural Association.

Mr. Stephen Easten and the Ministry of Health

Mr. Stephen Easten, O.B.E., President of the National Federation of Building Trades Employers, has resigned his position as Director of Production in Housing. Asked to explain the reason for his resignation at such a critical moment, Mr. Easten, in an interview with a press representative, complained of inter-departmental muddling and squabbling, of the flouting of expert advice from the Ministry's own advisers, and of the contest between the Cabinet and the Ministry of Health as to which should offer the largest bribe to the trade unions concerned.

"I do not want advertisement, but I do not want to shirk responsibility," said Mr. Easten. "No business man would waste time in giving advice which was persistently disregarded, or calmly see decisions arrived at which cut at the root of economy. The adoption by the Ministry of the ill-advised, blundering, and wasteful scheme of guild subsidies was the last straw. In itself I agree with the guild system, which means the co-operation of a number of workers who obtain contracts in open competition with the ordinary building contractors, but I certainly disagree with the idea of the guilds being subsidised to such an extent that they can drive building employers out of the market. Here are a few facts. The employer's contract exacts a penalty if he exceeds his estimate and allows him a small added profit if he works below it. That makes for economy. The guild contract guarantees the workers a 5 per cent profit. No matter if their estimated cost be doubled in working, there is no penalty. On the other hand, if the guilds save £100 on a house they lose money. If they estimate £1,000 and build for that, they get a profit of £50, but if they save £200, say, on this estimate, they only receive £40 profit. If the house costs £1,500 they make £75. That makes for waste, surely. The employer's contract allows him 1½ per cent. for establishment charges; the guild's contract allows 6 per cent., although the guilds have practically no establishment charges to meet. Another instance of waste—the employer is forbidden to offer any other inducement to workers than the usual standard rates in the district. He must not pay for lost time owing to the weather, sickness, etc. The guild contract allows them to pay for lost time and sickness, or to give any other special inducement they can devise. This means that the workers naturally will stampede from the ordinary contractor to the guild and their wasteful system.

"But the most serious aspect of the affair is this: The Ministry of Health has deliberately instituted a system of whole-time payment which may absolutely revolutionise the whole of the industries of the country. Every other class of worker, shipwrights, engineers, or steel workers, will clamour to be put on the same terms, and another tremendous handicap will be placed on British industry. The Government, in their offer to the building unions regarding the employment of ex-Service men, agree to 50 per cent. payment for lost time. The Minister of Health lavishly offers 100 per cent. It all amounts to this—that the employers, who from the first have pledged themselves to do all in their power to forward housing production, are penalised, and the building trade unions, who flatly declined to help in any way, are subsidised. The result will be that the employers will be forced to give their workers all that the guilds give, and that means a heavy increase in the cost of building. The employers will fight for the right to live, no matter what the Ministry of Health may do. All this extravagant muddling has been done in the face of repeated cautions from the Ministry's own expert advisers, who have warned Dr. Addison of the danger involved."

Law Reports

Dilapidations: Surveyor's Report

Foster v. Prodfer.

Official Referees' Court. Before Mr. Pollock.

In this case the plaintiff claimed £397 for repairs of a house, 373, Brixton Road, S.W., which defendant had occupied under a lease for twenty-one years, expired in December, 1919.

Mr. Blackwell, for the plaintiff, said that the lease contained the usual repairing covenants, and towards the expiration of the term a schedule of repairs required was prepared and served upon defendant. In December, 1913, Messrs. Percy H. Clarke and Son, surveyors, of London, found that nothing had been done in accordance with that schedule, and in the following January defendant communicated with them, stating that he had had the repairs in hand for some time, and suggesting that further repairs might be left to a later date. Messrs. Clarke agreed to allow the further repairs to stand over until March, 1914, but at the end of April of that year they found that but little had been done, to the value, in their estimation, of about £3. In June Messrs. Clarke inspected again, and found that the external painting had not been done, nor had the pointing of the brickwork been done. Accordingly a further schedule was prepared and served on July 23, 1914. In December of that year they found that defendant had nearly completed the outside painting, but no effort seemed to have been made to carry out the internal repairs. The defendant asked for time, which was granted until February, 1915, but in May it was found that nothing further had been done nor had it been done since. When the term came to an end defendant did not go out of possession. A writ was issued, and judgment obtained in January of this year. Defendant left in February, but a sub-tenant did not leave until March, so that the tenancy did not terminate until that date.

When the surveyor, Mr. Clarke, was called, counsel for the defendant (Mr. Englebach) said that defendant admitted liability. It was only a question of amount, there being no question as to the items.

The Court adjourned for a short time, and on resuming counsel announced that the defendant would submit to a judgment for the plaintiff for £300 and costs, the plaintiff stating that if reasonable effort were made to discharge the claim reasonable time would be allowed in which to do so.

The Official Referee thought the conclusion very satisfactory, and entered judgment for the plaintiff for £300, with costs.

Surveyor and His Fees

Stenning and Partners v. Standard, etc., Shipbuilding Co.

King's Bench Division. Before Mr. J. McCardie.

His lordship resumed the hearing of the action by Sir Alexander Stenning and Partners, surveyors, etc., of 121, Cannon Street, E.C., against the Standard Shipbuilding and Engineering Co., Ltd., of Newport, Mon., to recover balance of fees £1,100 for professional services rendered as surveyors or valuers for work done, or in the alternative for balance according to Ryde's scale. The fees under Ryde's scale amounted to £3,458, and plaintiffs giving defendants credit for the £1,000 received, asked in the alternative for £2,458. The defendants' works were acquired by the Crown, who said the amount already paid to plaintiffs, £1,000, was reasonable remuneration, that plaintiffs were not entitled to Ryde's scale, and that there never was an oral agreement to pay more.

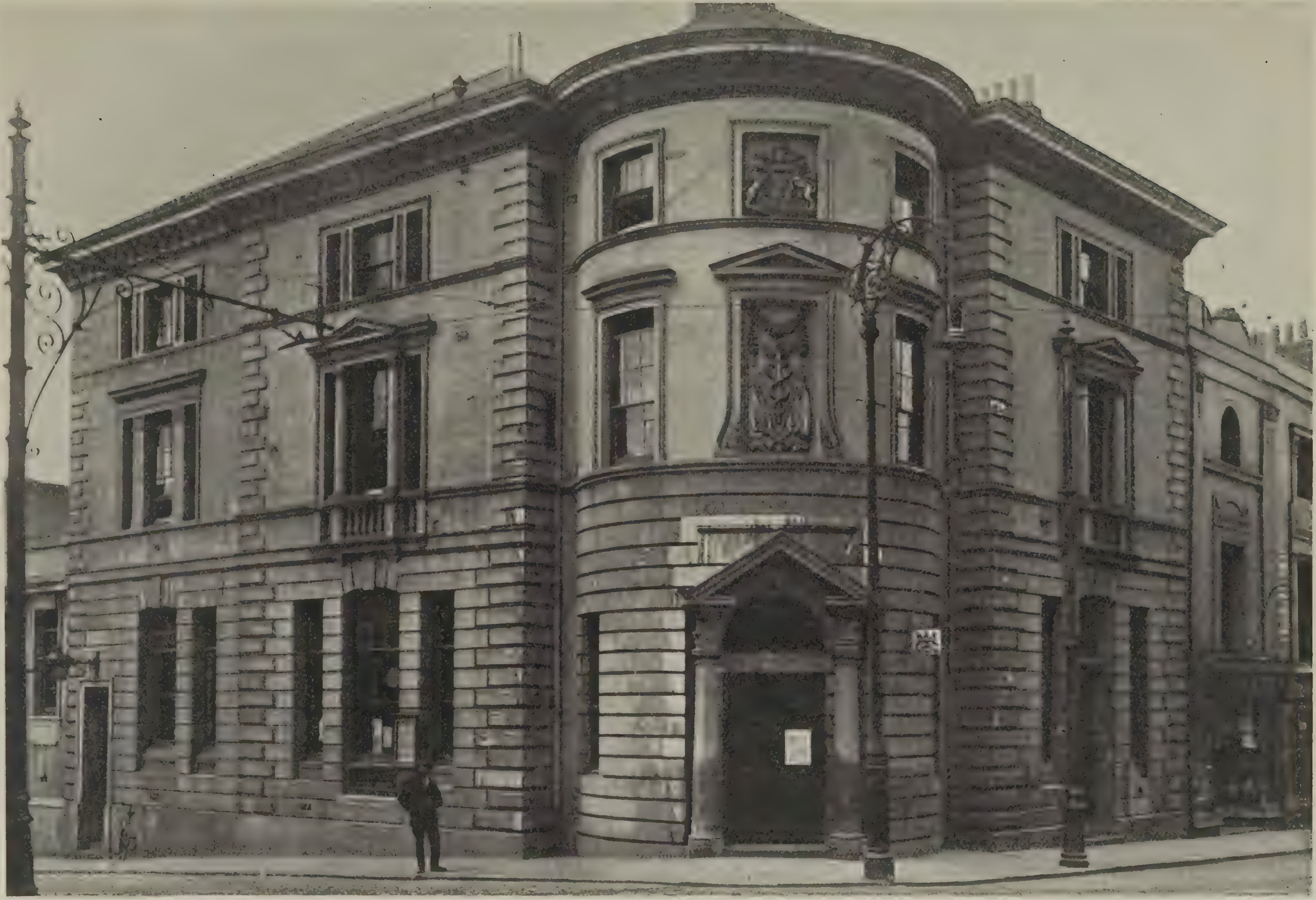
Mr. Holman Gregory, K.C., and Mr. H. Morris appeared for the plaintiffs, and the Attorney-General, Sir Gordon Hewart, K.C., and Mr. Branson for the Crown.

His lordship, in giving judgment, said he did not believe that Sir Alexander Stenning made Ryde's scale the basis of the contract and he came to the conclusion that Sir Alexander made no contract on Ryde's scale. It was not the basis of the contract here. Sir Alexander sent in an account for £2,100, including expenses. He was charging for a detailed series of services rendered. This was absolutely inconsistent with the charges on Ryde's scale. The next point he had to consider was the custom or usage put forward that Ryde's scale covered the present case. He came to the conclusion that neither pages 1, 2, or 8 of Ryde's scale applied here. He could not understand how either custom or usage could be seriously put forward in this case. The other question was the fair and just remuneration that plaintiffs were entitled to for the work done here, and this was the only part of the case that gave him any grave doubt. Sir Alexander was working in conjunction with Sir Wm. Peat to bring about a settlement with the Government. He (Sir Alexander) was adviser to the company and was doing important work for the company. He rejected the scale of the Surveyors' Institution as inapplicable to the case, but he could not overlook it as giving him a standard to apply in the case. He thought he should do justice here if he gave a moderate sum to plaintiffs over and above the £1,000 they had received. He should give that sum, bearing in mind these circumstances, that plaintiff was a gentleman of the highest possible position in his profession, that he was one of the great surveyors and valuers of the country, and that he was a gentleman of the greatest possible experience and carried through the negotiations to a successful conclusion. He awarded him 300 guineas over and above the £1,000 he had already received.

Judgment for plaintiffs for 300 guineas and for four-fifths of the costs.

Early Nineteenth-Century Architecture. 13—The Post Office, Fore Street, Devonport

Wightwick, Architect



That **Wightwick** possessed a considerable knowledge of Italian detail is clearly shown in this elegant corner building. Unfortunately, the original entrance has been destroyed to make way for a free-classic porch which is both impertinent and out of place. Note the value of a circular corner.

Correspondence

Architectural Appointments Abroad

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. McLachlan, the honorary secretary of the A.S.A.P.U., does well to draw attention in your issue of December 22 to this matter, particularly in regard to the form of contract of employment.

A case is reported in " The Times " Law Reports of a man who was appointed by the Secretary of State for India in Council as superintendent of technical institutions in Bengal for a term of five years, but after serving three years his employment was terminated owing to illness. He brought an action for damages, but it was held by Mr. Justice Bailhache that the claim must fail because, although the contract provided for five years certain, subject to dismissal for misconduct, it did not exclude the common law right of the Crown to dismiss without notice.

It would seem that such a form of contract is misleading, and that it may be determined by the Crown at any time without notice.

C. MCARTHUR BUTLER,
Secretary of the Society of Architects.

Architecture and the Public

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of December 8 you had a short article dealing with the subject of "Architecture and the Public," in which you urged by inference the necessity of doing something to quicken and develop public interest in good building. You will be glad to learn that in Manchester some practical steps have already been taken in that direction by the local Society of Architects and the Institute of Builders. Those two societies, acting together and in conjunction with the Manchester Victoria University, have arranged for the following lectures to be delivered in the large chemistry theatre of the University: January 17, "Is Architecture Worth While," by Mr. Paul Waterhouse, M.A., F.R.I.B.A.; January 27, "Imperial Building: What we Can Learn from Rome," by Lieut.-Colonel W. G. Newton, M.A., A.R.I.B.A.; February 17, "Westminster Abbey and its Builders," by Professor W. R. Lethaby, F.R.I.B.A.

It will be seen that the lecturers are of the highest rank, and that they will speak on subjects of great interest. No charge will be made for admission. The general public and all those connected with the building industry will be invited to attend. Every effort will be made to make the lectures as widely known as possible, and it is confidently anticipated that the purpose of the associations will be accomplished.

Should the example of Manchester be followed in London and other large cities an invigorating stimulus would be given to public taste in architecture throughout the country which would result in an improved demand for good work, and would leave some permanent influence for good upon the buildings of our time.

JOHN M. MACFARLANE,
Vice-President, Manchester Branch, Institute of Builders.

[We are glad to note that Manchester is taking such active measures to popularise architecture, and trust that this admirable example may be followed in other big centres of industry.—EDS. A.J.]

"The Art of E. A. Rickards"

Appreciations of this work, and of the genius of the architect whose work it summarises, continue to reach the publishers from authoritative sources. Only a few selections from the many letters received can be given this week. It will be noticed that they include a letter from the distinguished artist Mr. Edmund J. Sullivan, A.R.W.S.

When I was introduced to Rickards at an Academy Students' smoking concert about twenty-four or twenty-five years ago by C. E. Mallows, I remember chaffing them both, as professional architects, with having their minds ruled across and along like a copy-book with platitudinous mouldings, as stale as " All that glitters is not gold " and " Procrastination is the thief of time."

Looking through the splendid memorial volume of Rickards's work, now that he can be chaffed no longer, this first meeting comes back to mind; and although he showed even on that night his keen interest in rococo decoration, the sense of the contradictoriness of Fate is sharply pressed upon.

One feels that if Rickards could have imposed his will he would have preferred to dismiss the straight line from architecture, as it is said not to exist in nature; to have had his T square cut into a French curve; or rather to be left untrammelled to swing in his construction with a sweep of his free hand—to sketch flamboyant palaces as though stone were putty and yielded as freely to the thumb. What a mess he would make of a tablecloth at Gatti's with a project for a curly staircase! His bent seems to have been more towards the sylphide rhythm of line than to the status of mass—and an architect with a mind more free from the platitudinous mouldings of my gibe it would be impossible to imagine.

Was it a sense of this tendency that led him to score his horizontals so deep?

EDMUND J. SULLIVAN.

The late E. A. Rickards was a great artist and a distinguished architect. Those who knew him in the early days of his career, and who met him occasionally in later years, were perhaps too closely associated with him at one time and too remotely at another to visualise clearly his genius. We thought of him more as the Peter Pan of architecture. He seemed not to grow up. His enthusiasm never waned. When most of us were acquiring the chilling qualities peculiar to mature years he remained young. His pessimism, of which Mr. Arnold Bennett gives us a hint, was not of the depressing kind with which the successful elderly practitioner thinks it proper to curb the youthful student. In the company of sympathisers, Rickards radiated gaiety, humour, and enthusiasm.

Mr. Arnold Bennett, in his personal sketch, tells us that Rickards studied at the South Kensington Museum "a very great deal—alone." I think these lonely expeditions must have been few and far between, for during his South Kensington period there were many others working there. Rickards, who was not one to follow a lonely trail, soon came to know them all. There was S. D. Adshead, now Professor of Town Planning in the University of London; the late J. Stewart, who afterwards became a partner in the firm of Lanchester, Stewart, and Rickards; Thomas Sladdin, now of Jersey; Granville Fell, the black-and-white artist; also Garth Jones, if I remember rightly; J. Anderson, of the late firm of Wills and Anderson; W. Forsyth, of the firm of Forsyth and Maule; and myself. There were many others whose names escape me. I doubt whether there was any student working consistently at that time at the Museum whom Rickards did not know, and wherever Rickards worked there you might be sure the enthusiasts gathered; at one time it would be in the ironwork, at another in the woodwork gallery, and frequently three or four of us would meet for tea in the refreshment-room with the semi-circular end. Those were great times. I wonder if there are any left who remember Rickards's measuring assault round about 1891? From the cast in the Museum he measured and drew the lobby to the council chamber of the Hotel de Ville, Oudenarde.* To do the work properly it was necessary to have ladders, and after some vivacious interviews with the Museum authorities these were forthcoming, and for many evenings Rickards could be found near the top of the ladder busy with pencil and paper.—And now, alas! after many years of fine work, he is gone, and the book which summarises his work lies before us.

By his many friends this book will be treasured as a tribute to Rickards's memory, but, in the interests of the art of architecture, to which his life was devoted, it must go further afield. I feel confident that Rickards would have pleasure in the thought that this tribute to him would help to bring nearer the day when architecture will be regarded by the public as he regarded it, as the greatest of the arts. From its pages may be drawn the moral that architects are not only concerned with the science of building, but also with the arts which can transform our mean towns and sordid cities into places of beauty and enchantment. It is to the genius of such men as the late Edwin Alfred Rickards that we must look for this consummation.

G. LL. MORRIS.

---

* This drawing was reproduced in the Architectural Association Sketch-Book, "New Series," Vol. II.

Book Notices

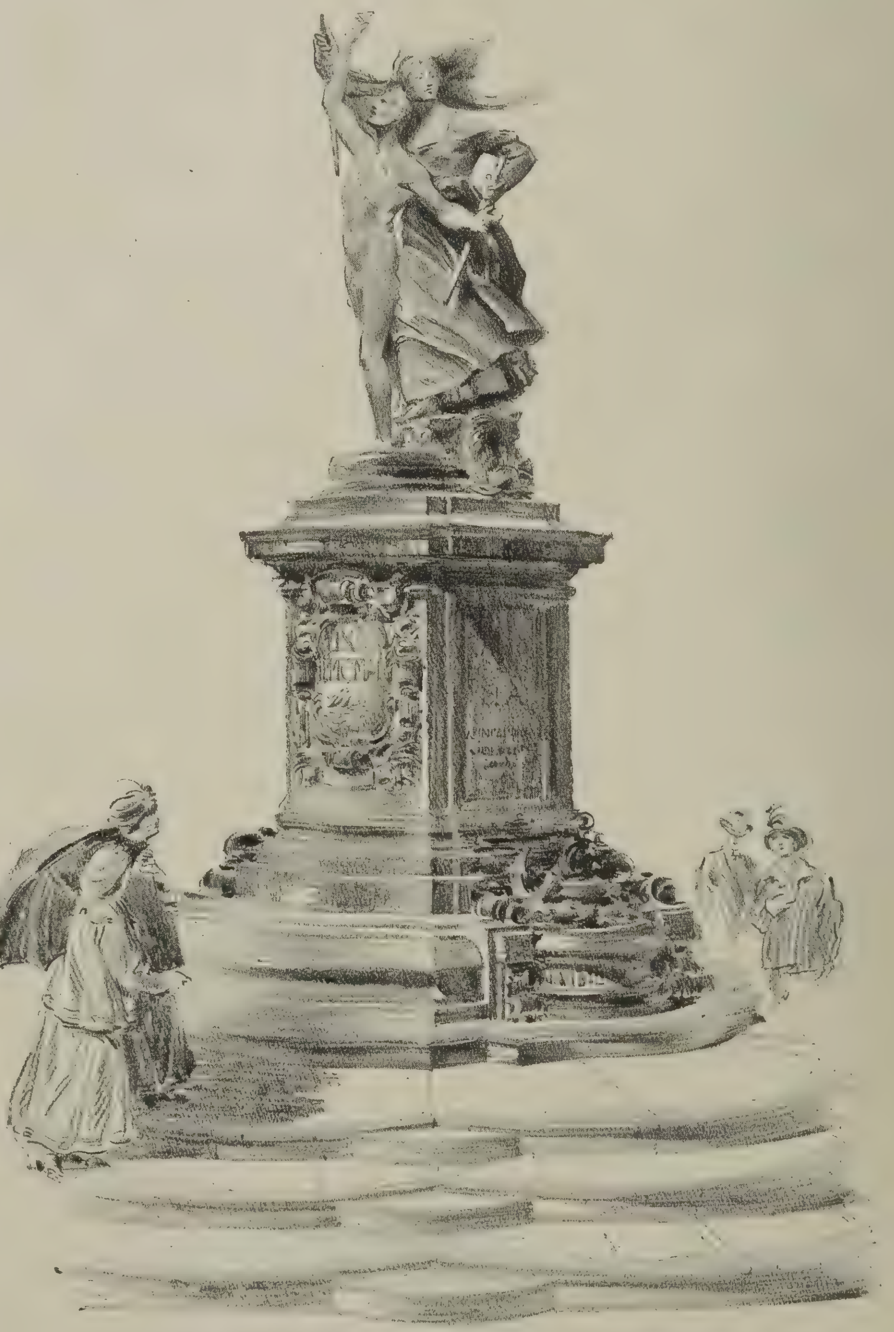
The Art of E. A. Rickards

It is an interesting thing that this handsome book was in course of preparation and, indeed, practically finished before Rickards's sad and untimely death occurred. There are not a great number of modern architects, nor old ones for that matter, whose work has been collected and commemorated in a volume, great or small. There are very few, indeed, who have ventured to put themselves to the test in this way during their lifetime. The names of Sir Edwin Lutyens and Charles A. Platt are the ones which jump at once to the mind. But the fine monographs on their work are something very different from this volume. They consist, in the main, and quite properly, of photographs of executed buildings. This book, on the other hand, contains not a single photograph. It is entirely devoted to Rickards's own drawings. That in itself is a very significant thing, but that the term "Art" should be so limited seems unfortunate. Rickards's art was a much greater thing than these drawings suggest. For one thing, he was no paper architect, but a very practical builder. His buildings are known to us all. They are better known, probably, than any modern buildings of their kind. We either like them or dislike them; no one can be indifferent to them. Architecture, then, was his art, his main occupation and thought in life. By implication to suggest that it was something else and something less is to do an injustice to his memory while striving to pay him honour.

But having quarrelled with the title, one can perhaps adjust the balance by pointing out how extremely interesting a thing it is to have collected and preserved for us the more intimate and personal side of Rickards's work which these drawings exhibit. We can all see and study his buildings when we want to, but till now we have not all been able to realise the artist in his most creative moments as these sketches and studies enable us to do. Here we see monuments forming themselves under his pencil. We realise the feverish eagerness with which his hand worked. We see how spontaneously and naturally the rich curves of the baroque came to express his meaning. We realise, too, that it was a very personal form of the baroque which he evolved. Wren and Vanbrugh may have influenced his earlier designs, and Bernini and the seventeenth-century Italians his later, but the resultant work was always Rickardsian. My own feeling is that history will place Rickards in a very special niche. His whole life was a revolt, a personal fight with the universe. Apart from his own work and that of his firm, there has been no real modern baroque movement in England. There has been, and is to-day, plenty of rococo work, but that is a very different thing.

Rickards was always against the current. He felt it himself very strongly. It came out in his attitude both to men and to institutions. It made him merciless to their foibles. The caricatures of his tongue were far more bitter than those of his pen, which, indeed, had always a saving and decorative grace. It was this attitude of mind which made him so stimulating a person to meet, and which gives to his drawings their strong individualism. Mr. Arnold Bennett, in the vivid personal sketch with which this volume opens, says: "The two most interesting, provocative, and stimulating men I have yet encountered are H. G. Wells and E. A. Rickards." That is exactly what these drawings suggest: a romantic personality intensely open to all impressions, interested in every phase of life, but always with its own definite baroque point of view. Who but Rickards, for instance, would have thought of designing, as this volume shows, a baroque garden full of fountains, curving steps, and hedges to commemorate the work of Calvin?

This collection of drawings contains many fine things, but, like all collections, misses some. The splendid Cardiff perspectives in ink line are not here. On the other hand, there is a drawing not so generally familiar, because it did not belong to the winning design, which is to me one of the most stimulating architectural drawings of our time. This is a case, too, where it is difficult to distinguish between the design and the draughtsmanship of the other. I refer to his perspective of the centre portion and tower of the London County Hall design. Was there ever anything more flowing over with life and vigour, more dramatic and grandiose? To imagine this great composition rising from the river is to see in some measure how much architecture has lost by Rickards's early death. There are several designs for monuments, all making a high imaginative appeal, and several, like that which won the Civic Arts Association's



DESIGN FOR A MONUMENT (CIVIC ARTS ASSOCIATION.)
BY THE LATE E. A. RICKARDS.

prize, shown in perfect pencil drawings. There have been wisely included, too, a few detail working drawings which show the completeness and homogeneity of Rickards's conceptions down to the smallest moulding. They are among the most interesting in the book. After the drawings of architecture and monuments follow a number of book illustrations, caricatures, designs for programmes and invitation cards, water-colour sketches, and lithographs, all of interest and all proof of the Renaissance-like versatility of his genius. Some of the book illustrations are a little too closely packed together on the page, and some are too much reduced in size. All, however, show Rickards's sense of decoration, his love of rich curving form, his happy and stimulating outlook, and his fine adventurous spirit. In a supposedly prosaic age he was always a romantic, to whom the drama of life in every direction made an irresistible appeal. If then, like Wren's, his buildings remain his real monument, this timely and beautiful book forms a very touching and personal epitaph, which all who know his greater work and many more will be glad to possess.

C. H. REILLY.

"The Art of E. A. Rickards." Technical Journals, Ltd., 27-29 Tothill Street, Westminster. Price 3 guineas net.

A Comedy with an Architect

Doctors, lawyers, artists, writers, and lesser breeds of professional men quite commonly figure in contemporary drama, but for some obscure reason architects are seldom represented. Even when they are permitted to strut the boards, architecture has little or nothing to do with the plot of the play. An exception must, of course, be made of Mr. F. Anstey's "Brass Bottle," though even here, it may be remembered, the architect (Horace Ventimore) is largely deprived of his *raison d'être* owing to the embarrassing attentions of the grateful Jinnee, who insists upon raising magical (and insanitary) Oriental palaces in place of Ventimore's vernacular domestic.

Signs are not wanting, however, of a new interest in the architect as material fit for the drama—in any case, that part of it which is classified "comedy." An architect is the central figure in a play entitled "Mrs. Hodges: A Comedy of Rural Politics in Two Acts." by Margaret Macnamara (London: C. W. Daniel, Ltd., price 2s. net), of which we have received a copy. The play is inspired by an excerpt from Circular 40 of the Ministry of Health, which reads: "Dr. Addison feels sure that local authorities will prefer to receive any criticism which the inhabitants of the district may wish to put forward before rather than after the erection of the houses."

Avoiding the farcical possibilities that are obviously indicated, Miss Macnamara has addressed herself seriously to the subject and has produced a "play with a purpose." In the first act a particularly parsimonious "housing committee" discusses proposals for cheapening the cottages, such as omitting the entrance porch (an "unnecessary extravagance"), substituting rain-water butts for a proper system of drainage, the non-provision of a parlour ("a lumber-room for useless 'knick-knacks'"), and so forth. The architect (Feathergill) during this discussion has little to say, though what he does say is distinctly in favour of the economies indicated. (We are sorry that he is made to nurse a plan and a cardboard model of his design during these proceedings. This kind of thing is really not done.)

Feathergill (apparently not a local inhabitant) is unable to find sleeping accommodation for the night, and, in the second act, is compelled to put up at a cottage of his own design, whose inconveniences the matron of the household (Mrs. Hodges) artfully contrives to bring home to him. In the end things become so utterly unbearable that the distracted architect flies from the house, and is observed to pitch his plans into a conveniently adjacent river.

The play is cleverly written, and its situations cunningly contrived. It would be extremely effective propaganda if it were at all true to life. Architects, however (let us be thankful!) are not like Mr. Feathergill. Nor do they willingly design houses with inadequate accommodation. It is only within very recent times that they have designed working-class cottages at all. Miss Macnamara's tilt should have been not against the architect, but the speculative builder.

Books Received.

Housing Betterment. September, 1920. A journal of housing advance issued quarterly by the National Housing Association.

"The Book of the Bungalow," by R. Randal Phillips. "Country Life" Library Price 8s. 6d. net.

Spon's "Architects' and Builders' Pocket Price Book, 1921." Edited by Clyde Young, F.R.I.B.A. 47th edition. Price 6s. net. E. and F. N. Spon, Ltd., 57, Haymarket, S.W.1.

Spon's "Practical Builders' Pocket Book," Edited by Clyde Young, F.R.I.B.A. Third edition. 74 illustrations. Price 10s. 6d. net. E. and F. N. Spon, Ltd., 57, Haymarket, S.W.1.

Private Building

Three hundred and thirty privately-built houses had been completed under the grant up to December 17, the largest number yet to qualify for the grant in any one week. The number altogether completed now amounts to 4,823, and preliminary certificates granted to 27,299.

Progress of Housing Schemes

New housing schemes submitted to the Ministry of Health during the week ended December 18 numbered forty-one, bringing the total number of schemes submitted to 11,416. The schemes approved now number 8,773, and comprise about 57,697 acres. Sixty-one lay-out schemes were submitted, and fifty-seven approved during the week, bringing the total number of lay-outs submitted to 6,930, and number approved to 6,355. House plans representing 1,105 houses were submitted, and plans for 930 houses approved. The total number of houses represented in all plans now submitted is 282,678, and in the plans approved 266,435. During the week tenders were submitted for 1,960 houses. Tenders for 801 were approved, bringing the total number of houses in tenders submitted to 180,767, and in tenders approved to 167,168. Contracts have been signed for 136,250 houses.

Seen in a Reading Room

The subject of public interest in architecture has at different times received some measure of attention in the columns of THE ARCHITECTS' JOURNAL, and a recent letter from a correspondent has moved us to further investigation of the matter.

It is obviously impossible to gauge with any degree of accuracy the average layman's attitude towards this most enduring of the arts, but whereas he might a few years ago have been justly accused of callous indifference to the outward form of the buildings which surrounded him, many little indications show that to-day his lethargy is in many cases giving place to a steadily increasing interest and knowledge.

The visitors' book of an architectural library affords a panoramic view of the daily succession of readers, students, and enquirers, and some illuminating sidelights are thrown on the subject by an analysis of the informal record kept in the Reading Room at 29, Tothill Street.

In days of old, *noblesse oblige* was a deep-rooted principle among those who stood highest in the land, and not the least of their obligations was the cultivation of the arts and the patronage of the artist. Poets and painters need no longer haunt great men's doorways, but it cannot be denied that the wealthy and noble client, from Burlington onwards, has rendered substantial service to architecture both by precept and example, and there is satisfaction, therefore, to be derived from the fact that the much-abused but still acknowledged "Upper Ten" evinces a lively interest in architecture both as an art and as a practical matter. Great landowners and Cabinet Ministers do not disdain to seek information from the latest books on construction and housing; famous agriculturists will ask for the newest designs for farm buildings, physicians whose names are household words look for suggestions on hospital planning. Men and women who are recognised leaders in the world of art and letters would be naturally expected to keep themselves in touch with architectural developments, and that their interest and knowledge go deeper than that of the average intelligent amateur is proved by the nature of their enquiries and the range of their reading, while a goodly sprinkling of the Smiths, Browns, and Robinsons of the world bear witness to the growing realisation among the general public that architecture is a matter of national importance and common concern.

Librarians have not always an easy task, and must at times pray for the gift of tongues, especially when some foreigner of delightful enthusiasm but incomprehensible diction comes in search of information. China and Egypt, Japan and India, are among the Eastern lands which have sent their quota, and visitors from every European country have found a common interest in their common art. The Colonies, too, are well represented in the visitors' book.

It were but a vain digression to enlarge further on the various types of laymen who consult architectural books, but enough has perhaps been said to show that architecture is no longer a thing apart, far removed from the daily life of the nation. The seeds of a universal popularity are germinating slowly but surely, and they only need careful tending on the part of professional gardeners to bring them to a perfect maturity. E. N. B.

Construction. 15.—New Grain Silo for the Merchants' Warehousing Company, Limited, Dublin

THIS building was designed by Messrs. Batchelor and Hicks, 86, Merrion Square, Dublin, working in conjunction with Messrs. Henry Simon, Ltd., engineers, Manchester, who supplied the machinery equipment. The whole of the reinforced concrete work was designed and carried out by Messrs. J. and W. Stewart, of London, Dublin, and Belfast.

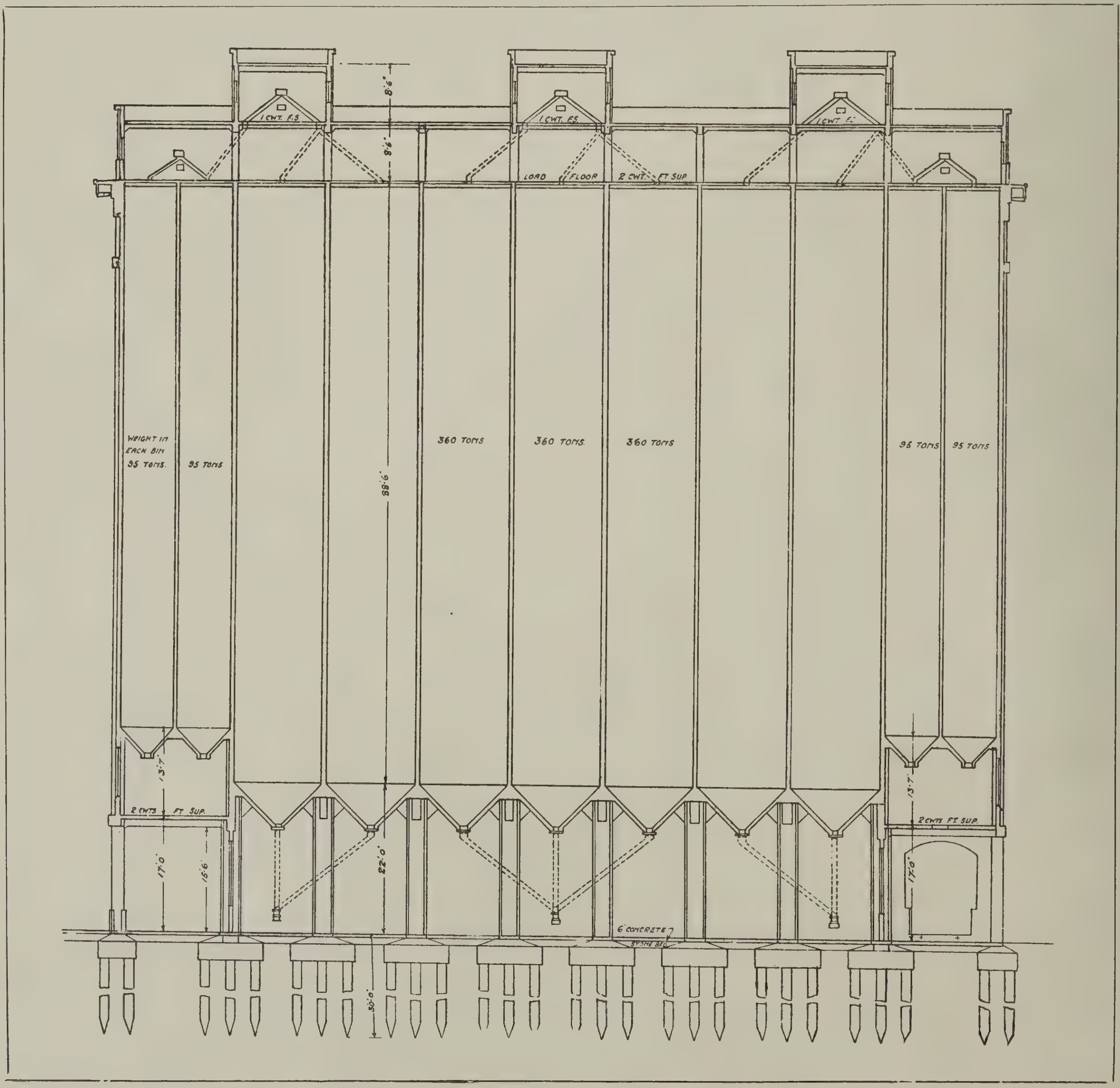
The main building is 130 ft. long by 23 ft. wide, and 136 ft. high from ground level.

It contains thirty-two storage bins 13 ft. by 13 ft. square on plan by 88 ft. 6 in. deep, each having a capacity of 360 tons, and forty delivery bins about 6 ft. by 8 ft. on plan by 80 ft. deep, each having a capacity of ninety-five tons.

The structure is exceptionally heavy, which may be judged from the fact that the load on some of the main columns is about 534 tons each.

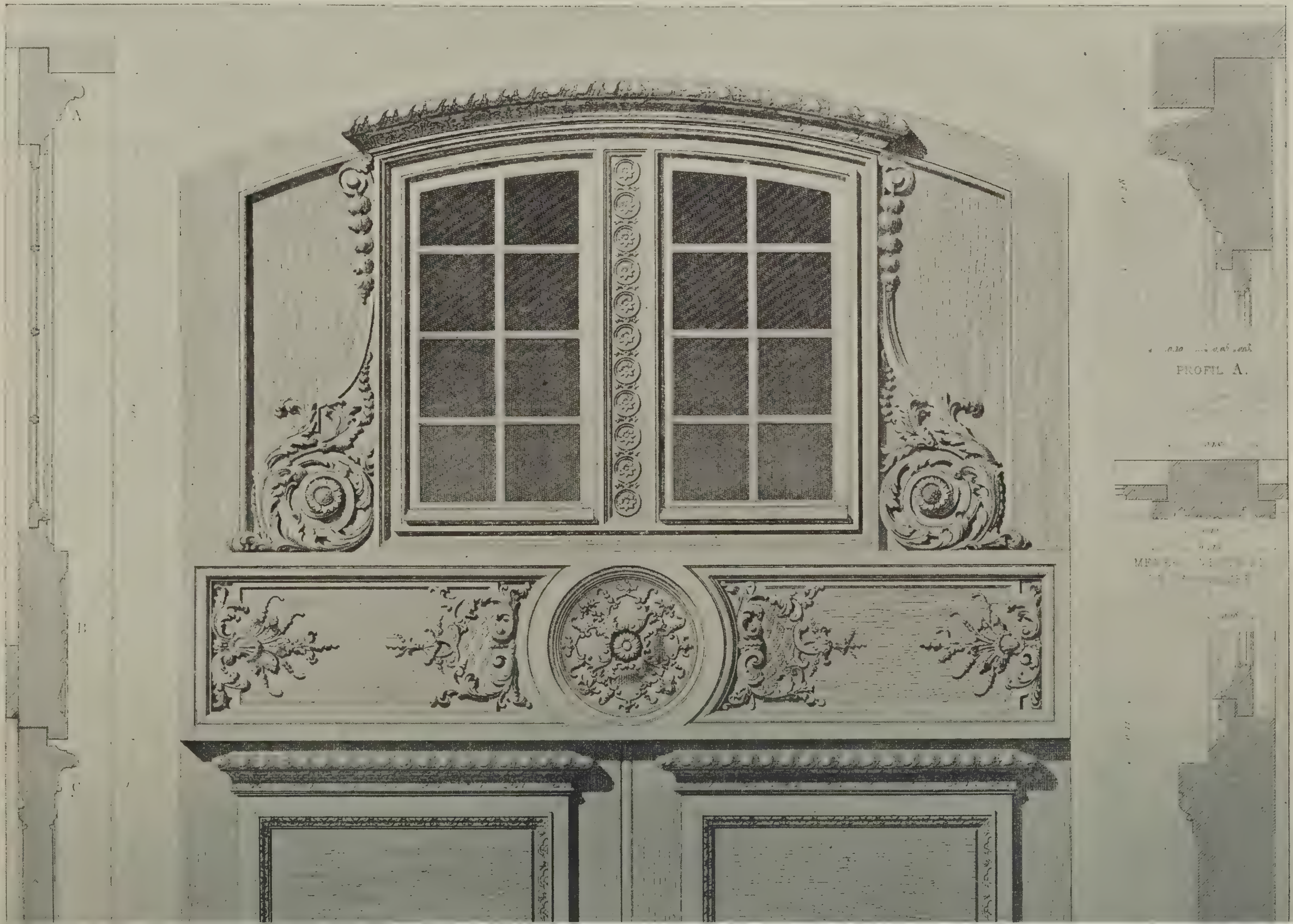
The site where the Silo had to be erected is reclaimed ground, and it was found necessary to have a piled foundation, as a hard stratum was only found about 40 ft. below ground level. The piling used was Messrs. J. and W. Stewart's "C. P." (cast-in-place) concrete piles, which are made by driving a heavy steel tube into the ground until the necessary set has been obtained. The tube, which is provided with a heavy loose cast-iron shoe, is then filled with concrete, and is at once drawn out of the ground. The soft concrete sinks and expands under the pressure of its own weight, thus filling up tightly and securely the hole formed in the ground. The piles in this case were reinforced with steel bars.

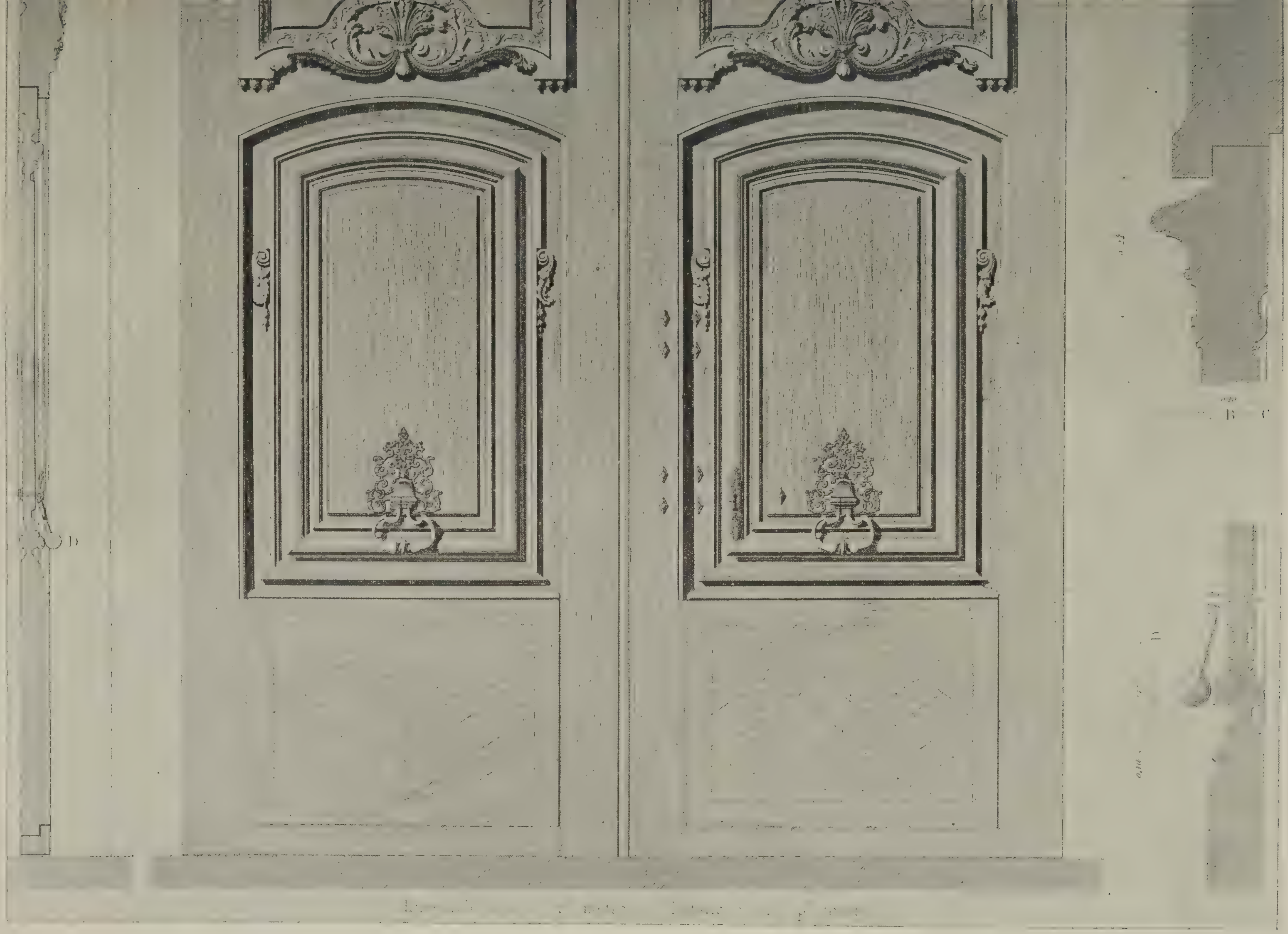
As some doubt was entertained whether the piles could be driven to a sufficient set in the soft ground to carry the calculated loads, it was decided to make a test as to their bearing capacity. Four piles were selected and a bin was constructed and



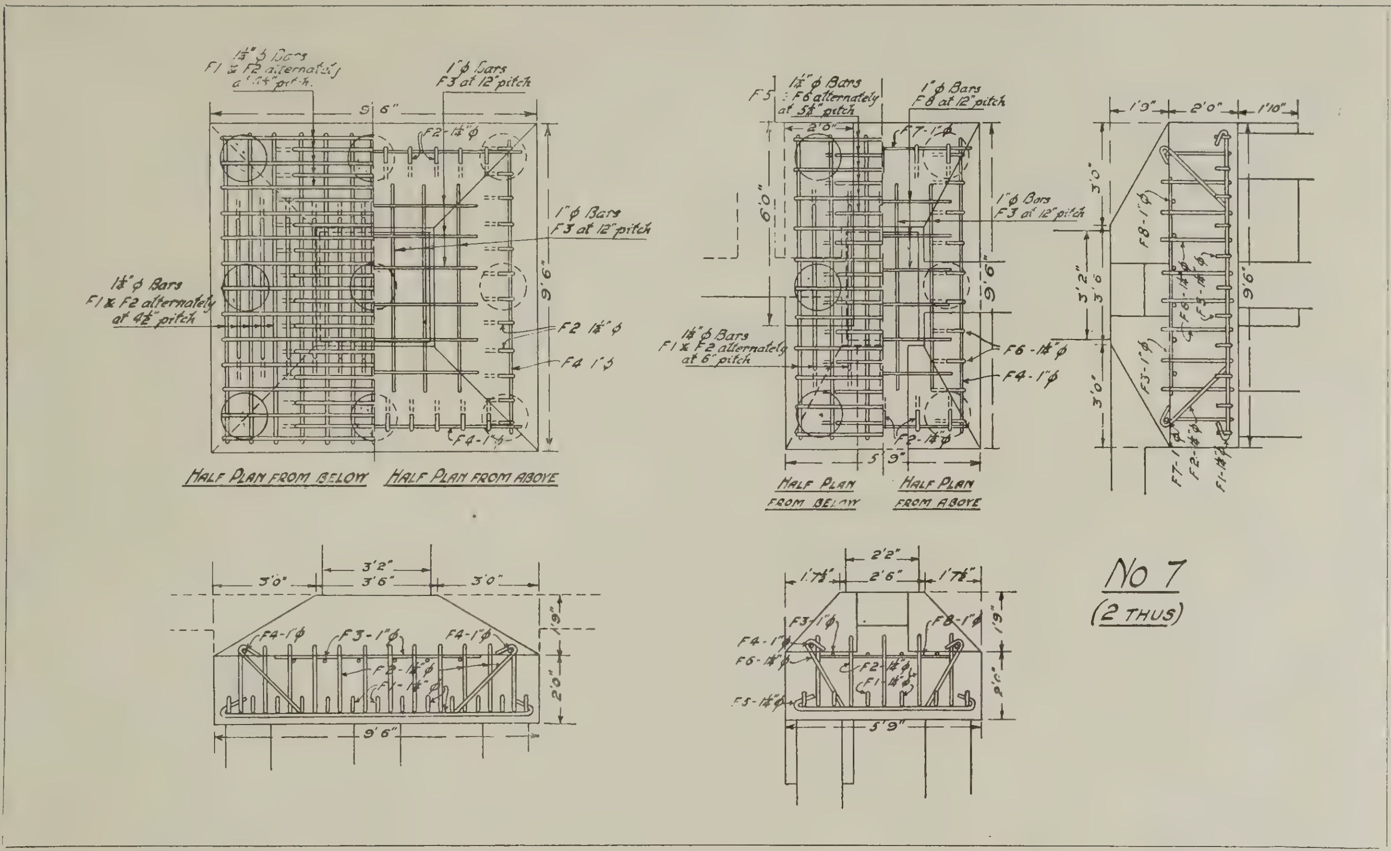
REINFORCED CONCRETE GRAIN SILO, DUBLIN: SECTION THROUGH STORAGE BINS.

Architectural Details. 6.—Louis XIV. Doorway, Impasse des Bourdonnais, Paris

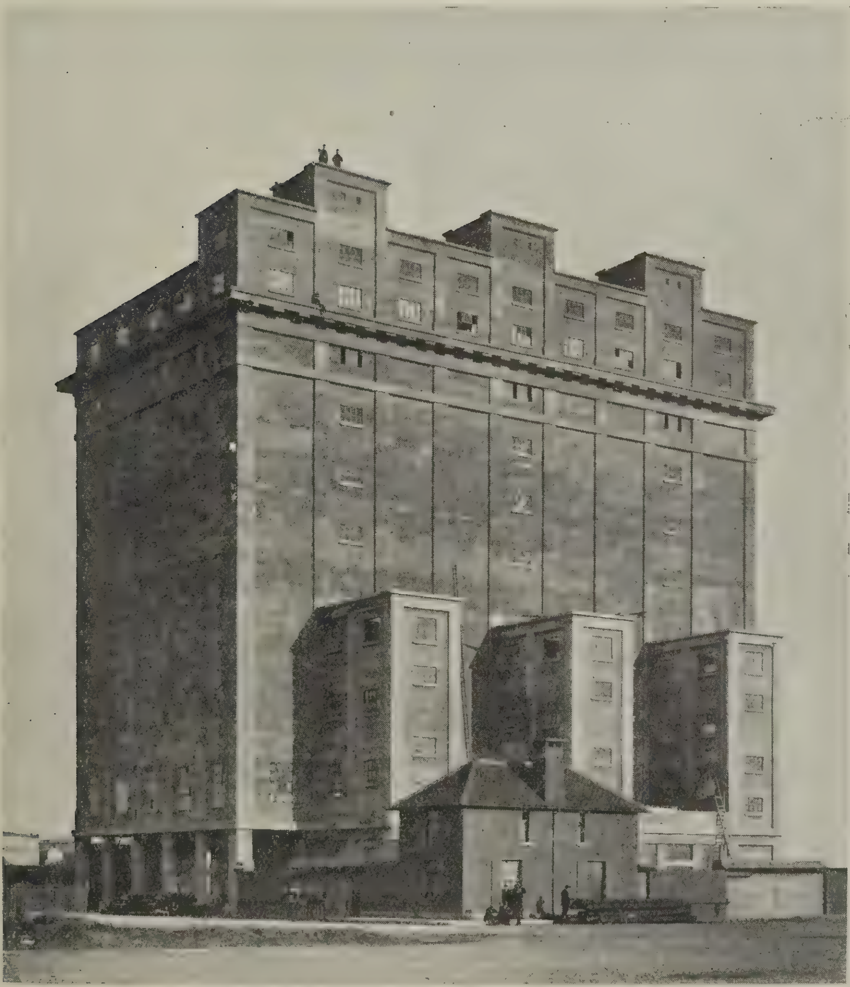




M. César Daly, in his monumental work "Motifs Historiques d'Architecture et de Sculpture d'Ornement," published in 1869, collected a wealth of ornamental motifs which has been of immense service to architects and decorators– both in suggesting adaptations and in stimulating inventiveness. The Louis XIV. detail here reproduced is not altogether typical of the period. Note the delicate "Regence" character of the detail.



REINFORCED CONCRETE GRAIN SILO, DUBLIN: TYPICAL DETAILS OF PILE CAPS.



REINFORCED CONCRETE GRAIN SILO, DUBLIN.

filled with 300 tons of stone, giving a load of seventy-five tons on each pile. No settlement or movement of any kind could be detected during or after the testing.

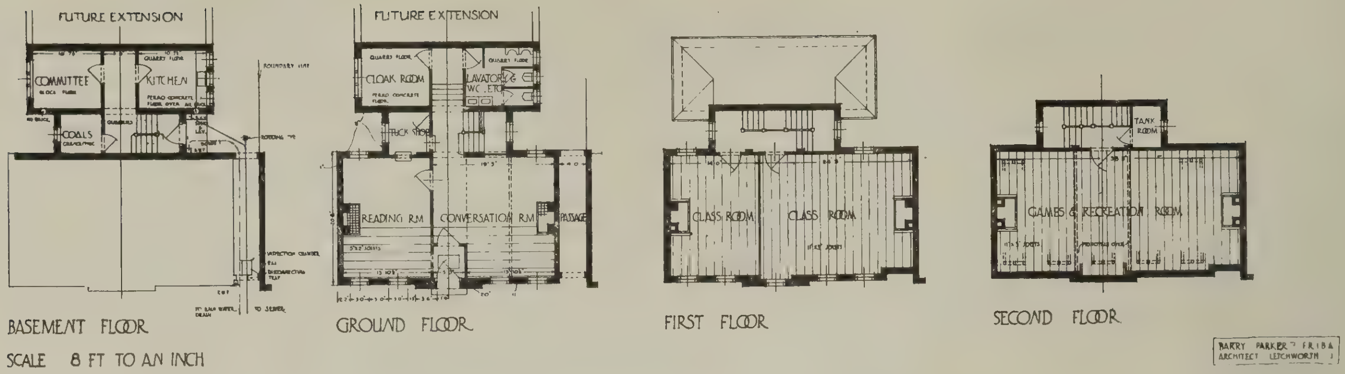
The bin walls, which are 7 in. thick, are all constructed with a double layer of reinforcement, one near each face of the wall, as it was necessary to provide for bending in either direction, owing to the fact that any bin may be filled while the adjoining bins are empty.

Above the bins there are three floors, the first forming the top cover for the bins, the second containing the galleries for the grain conveyors, and the third containing the lift towers. A pneumatic plant for handling the grain is being installed by Messrs. H. Simon, of Manchester.

The steel used for reinforcement consists of plain round mild steel bars. In some of the main columns bars up to 2 in. diameter are used, tied together at intervals with ties made from $\frac{3}{8}$ in. diameter bars. The shear reinforcement in the beams is made from hoop steel and is attached to the main reinforcing bars in such a way that they cannot be displaced during the depositing of the concrete in the forms.

The main staircases are also made in reinforced concrete. The stringers were made in situ in the ordinary way, but the steps were pre-cast and afterwards placed in position. The treads were grooved and the top layer of concrete was mixed with carborundum grit to give a non-slipping surface. All the windows have steel casements, and the windowsills are formed in concrete.

The whole structure, with its projecting pilasters, main cornice and other architectural features, is a good example of concrete construction on a large scale for heavy buildings.



PLANS OF THE BOYS' CLUB, LETCHWORTH.

Competitions Open

Lockerbie.

War memorial; cost, £2,000. Apply Mr. David McJerrow, Town Clerk, Lockerbie. Closing date, January 31.

R.E. Memorial, Chatham.

War Memorial. Assessor, Sir Reginald Blomfield, R.A. Premiums, £200, £125, and £75. Apply Secretary R.E. Memorial Sub-Committee, R.E Institute, Chatham. (See our issue of November 24.) Closing date, March 17.

Licensed House in a Large Town.

With a view to obtaining suggestions for improving the existing type of public-house, the Court of the Worshipful Company of Brewers offers premiums of £300, £150, and £50 for the best design for a licensed house on a given site. Competitors must be Members or Licentiates R.I.B.A. The President has consented to act as assessor. Apply Secretary, R.I.B.A. Deposit, two guineas, which will be returned to all competitors submitting bona-fide designs. Closing date, January 31.

Temple of Memory.

A Temple of Memory. Competition open to architectural students from nineteen to fifty-four years of age, residing in the United Kingdom. Prizes £75 and £25. Apply Mr. C. J. Maclean, secretary, Alexander Thompson Travelling Studentship, 21, West George Street, Glasgow. (See our issue of November 10.) Closing date, April 15.

East Ham General Hospital.

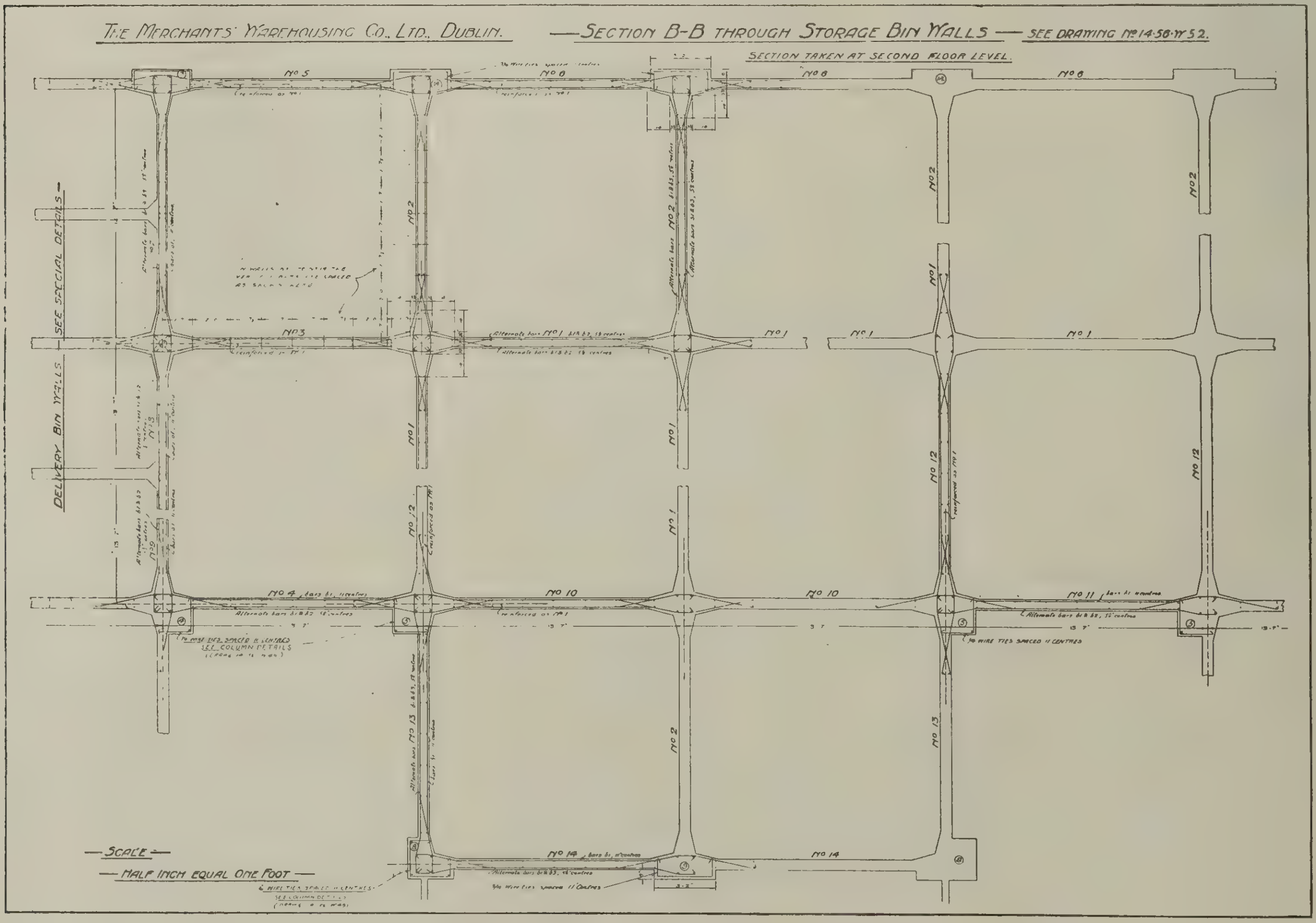
The East Ham Hospital Committee invite competitive designs for the erection of a general hospital in Shrewsbury Road, East Ham, at a cost of £40,000. Assessor, Mr. George Hubbard, F.S.A., F.R.I.B.A. The author of the design placed first will be appointed architect, and premiums of £75 and £50 will be awarded to the authors of designs placed second and third. Apply, Mr. Ernest Richardson, of "Montfitchet," 296, Katherine Road, Forest Gate, E.7. Closing date, February 25.

Canadian War Memorials.

Canadian War Memorials in France. Assessors, Messrs. Frank Darling, F.R.I.B.A., Paul P. Crét, and Prof. C. H. Reilly, F.R.I.B.A. The assessors will assemble in Canada in the spring to arrange details.

Glasgow.

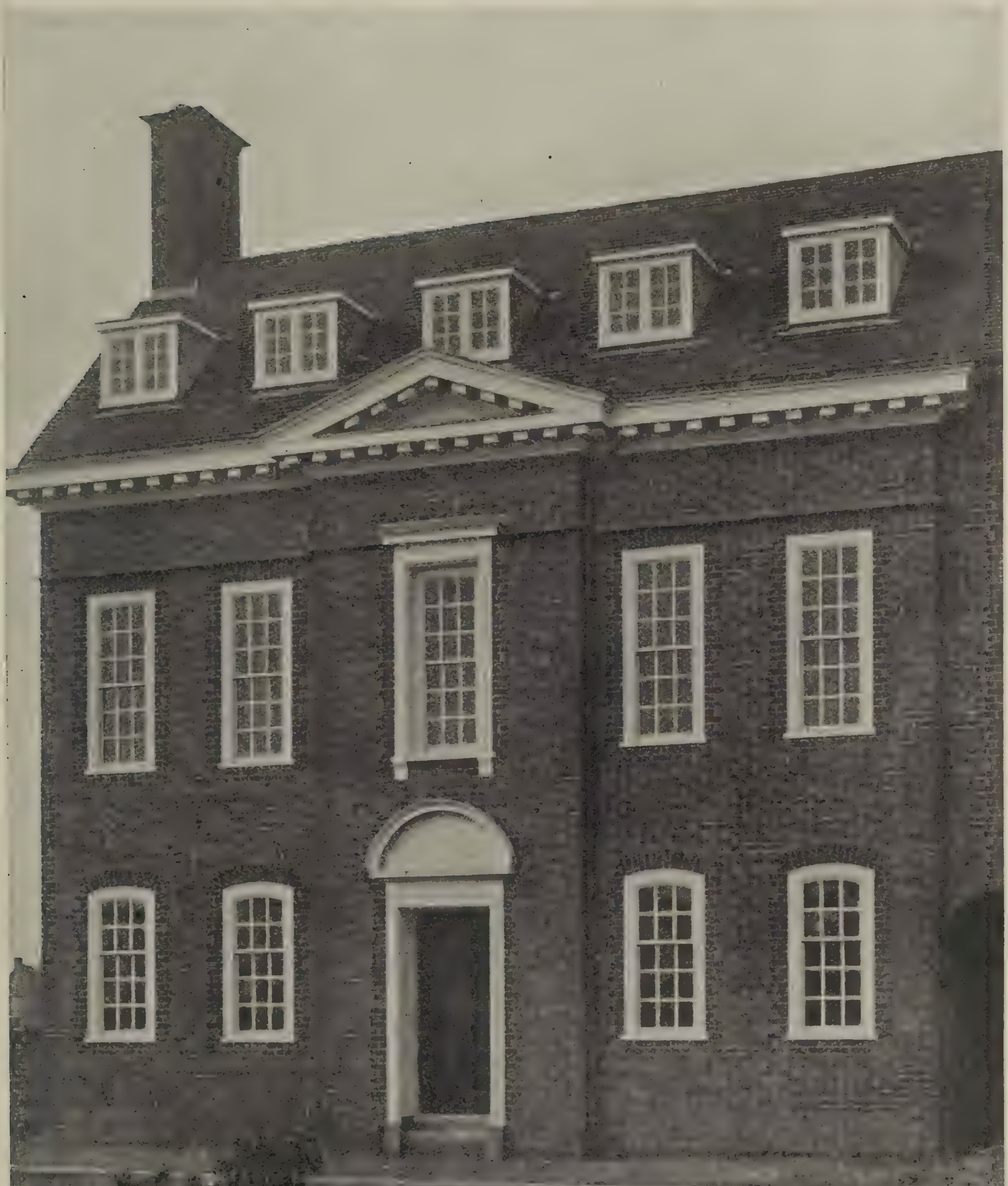
War Memorial for Vestibule of High School. Assessor, Mr. John Keppie, F.R.I.B.A. Competition confined to former pupils of the High School. Apply, Mr. Hugh R. Buchanan, 172, St. Vincent Street, Glasgow. Closing date, January 31.


The Merchants' Warehousing Co. Ltd. Dublin.
—Section B-B through Storage Bin Walls —
See drawing No 14·58·& 52.
Section taken at second floor level
See special details
Delivery bin walls
No 1
No 2
No 3
No 4
No 5
No 8
No 10
No 11
No 12
No 13
No 14
—Scale—
—Half inch equal one foot—

REINFORCED CONCRETE GRAIN SILO, DUBLIN: SECTION THROUGH STORAGE BIN WALLS.

Modern Domestic Architecture. 24.—The Boys' Club, Letchworth

Barry Parker, F.R.I.B.A., Architect



In this pleasant little elevation effect is secured by the apt use of simple elements—white sash windows, a middle feature breaking slightly forward with small pediment over, and a dentil cornice. A frieze is neatly suggested by the introduction of a string course over the heads of the upper windows. The accommodation provided is shown on the plans reproduced on the opposite page.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

R.I.B.A. Proceedings

The King and the Institute.

On Christmas Eve the President of the Royal Institute sent the following telegram to His Majesty the King:

"To His Majesty the King—Sandringham.

"Royal Institute of British Architects submit humble duty to His Majesty, their Gracious Patron, and offer very sincere wishes for Happy Christmas.

"Simpson—President."

The following gracious reply was received the same evening:

"Sandringham,

"President,

"Royal Institute of British Architects,

"High Holborn.

"The King sincerely thanks the Royal Institute of British Architects for their Christmas greetings, which His Majesty heartily reciprocates.

"Private Secretary."

Increase of Entrance Fees.

The entrance fees for the Institute Examinations are now as follows:

Preliminary (Registration as Probationer)	£4	4	0
Intermediate	5	5	0
Final	6	6	0
Special Final	10	10	0
Special Overseas	10	10	0

Council Meeting.

The following business has been transacted by the Council of the R.I.B.A.:

Wages in the Building Trade.—The Council have decided to publish a note in the Journal advising Members and Licentiates to do their best to obtain fixed tenders for building work whenever possible, and to notify the public Press of the action taken in this matter.

Arterial Roads.—The Council have addressed a letter on this subject to Sir Henry Maybury, of the Ministry of Transport. (The text of the letter is set out below.)

Grants.—The Council have made grants of £20 in aid of the funds of the Conjoint Board of Scientific Societies and £5 in aid of the funds of the British Engineering Standards Association.

The Henry Jarvis Travelling Studentship.—The Council have sanctioned the preparation of a special certificate to be awarded to holders of the Henry Jarvis Travelling Studentship.

Classes of Membership Committee.—The Council have adopted the report of this Committee, and important proposals for the reorganisation of certain of the classes of membership will shortly be laid before the General Body.

Annual Exhibition of Architecture.—The Council have approved of a report of the Art Standing Committee on this subject, and a detailed programme will shortly be considered.

Honorary Corresponding Membership.—Monsieur Albert Louvet, of Paris, President of the Société des Architectes Diplomés par le Gouvernement, has been nominated as Honorary Corresponding Member of the Royal Institute in place of Monsieur Louis Bonnier, deceased.

Arterial Roads.

On the recommendation of the Town-Planning Committee of the R.I.B.A., the following letter has been directed to Sir Henry Maybury, of the Ministry of Transport, on the subject of the construction of arterial roads in the neighbourhood of London:

Sir,—I am directed by the Council of the Royal Institute of British Architects to express their gratification at the action already taken by the Ministry of Transport with regard to the construction of arterial roads in the neighbourhood of London, as approved by the London Arterial Roads Conferences held under the auspices of the Local Government Board.

I am also directed to express the hope that the additional roads suggested by the London Society on their development plan will be considered in each case.

I am further desired to invite your attention to the suggestions of the Thames Side Housing and Development Committee as approved by a conference of the local authorities concerned and indicated upon the accompanying plan and particulars, and to submit the same for favourable consideration.

The Council desire to impress upon the Ministry the paramount importance of immediately preserving the routes of the proposed arterial roads, both in the neighbourhood of London and elsewhere, and to urge that the authority of Parliament be obtained for this purpose.—I am, sir, your obedient servant,

IAN MACALISTER, secretary.

Town-Planning Schemes.

On the recommendation of the Town-Planning Committee of the R.I.B.A. the following letter has been addressed by the Council to all the Allied Societies of the R.I.B.A. in Great Britain:

Dear Sir,—The Town Planning and Housing Committee of the Royal Institute have had under consideration the probable effect of the following section of the Housing, Town-Planning, etc., Act, 1919:

> Sec. 46 (1). The Council of every borough or other urban district containing on January 1, 1923, a population, according to the last census for the time being of more than 20,000 shall, within three years after that date, prepare and submit to the Local Government Board a town-planning scheme in respect of all land within the borough or urban district in respect of which a town-planning scheme may be made under the Act of 1909.

The Act thus renders it compulsory after 1923 for all local authorities with a population over 20,000 to prepare a town-planning scheme for all land in their area likely to be built upon, and the Council of the Institute deem it essential that, in the preparation of such plans, the various local authorities should have the assistance of a competent architect or architects.

I am therefore desired to suggest that each Allied Society in Great Britain should appoint a special town-planning committee, with a view to the appointment of a competent architect in each case, and to keep in touch with the R.I.B.A. and the various local authorities in their local area.—Yours faithfully,

IAN MACALISTER, secretary.

Ulster Society of Architects

The office bearers elected for the coming year are as follows: Messrs. R. M. Young, F.R.I.B.A., president; H. Seaver, B.E., vice-president; E. R. Kennedy, A.R.I.B.A., hon. secretary; W. C. Maxwell, A.R.I.B.A., hon. treasurer; Council—Messrs. T. W. Henry, M.S.A., R. E. Buchanan, J. A. Hanna, R. H. Gibson, N. Fitzsimons, F.R.I.B.A. Representatives Derry Committee—Messrs. James P. M'Grath and J. A. Davidsoon, A.R.I.B.A.; Associate members, Messrs. T. Callander and J. Smith; hon auditors, Messrs. J. R. Young and T. Houston; secretary, J. A. Johnston, C.A., Ocean Buildings, Belfast.

The Architect as Collector and Connoisseur

Mr. Robert Atkinson, F.R.I.B.A., gave an address on "The Architect as a Collector and Connoisseur" to members of the Architectural Association on December 20. Mr. W. G. Newton, M.A., A.R.I.B.A., presided. The lecture was illustrated by many interesting slides of furniture, etc., collected by himself.

Mr. Atkinson said that the architect's profession was one which was always bringing him into touch with antiquities, and collecting became something more than a hobby; it was in the nature of an education. The pleasures of search and possession, and the satisfaction of repeated examinations of the subtleties of design and workmanship, so often found in old things, were such that the architect could scarcely help collecting. His appreciation of old things might almost be regarded as the measure of his artistic capacity. No architect could afford to be ignorant of decorative essentials. His training was always bringing him into touch with antiquities, and he collected instinctively. He would probably begin by collecting things which were more or less a side issue of architecture.

Mr. Atkinson asked why should an architect's interest stop at the designing of rooms. How could an architect design a room without knowing something about furnishings? He was the man to lay down the lines of the general furnishing scheme, and he was defective in ability if he could not do so. Why should the trade firms monopolise the furnishing of houses, and generally produce effects out of harmony with the decorative scheme? In earlier centuries the work of the architect was more closely associated with furnishing. In some cases—as Mr. Atkinson's slides showed—the articles formed part of the structure, only subsequently becoming separate pieces of furniture.

Mr. E. Stanley Hall, who proposed a vote of thanks, said that collecting was a fascinating hobby, and there was in it almost as much joy in searching as in the actual find. Mr. G. G. Wornum, seconding the vote of thanks, said that he thought a room furnished in the style of only one period lacked individuality, and to mix periods gave more chance to the small collector.

Mr. F. R. Yerbury said that he found collecting furniture wanted a lot of space, and at the outset one must decide whether one was going to collect or only furnish a house. Collecting was a thing which grew upon one. The late Norman Shaw was a great collector of clocks, and he remembered that on the staircase alone were thirty clocks. It was a thing to guard against.

Mr. Atkinson, replying to the vote of thanks, said that so far as mixing periods went, for small collectors he thought it the best thing. After all, if one were to live in a room of one period one should also dress in that period! Certainly one should not make a fetish of collecting, although, unfortunately, he himself had eight or nine grandfather clocks. The main thing was to collect only objects which were useful, and a periodical weeding-out was essential.

Garden Design and Construction*

By Frank Hodson, Jun.

During the past twenty or thirty years there has been a noted increase of interest in gardens, particularly in connection with those of modest extent. Many of the larger country houses, the homes of our old aristocracy, are noted as much for the charm of their well laid out parks and gardens as for their architectural character. The house and outbuildings form the heart of the scheme, and the amenities conveniently arranged include the gardens immediately about the house, a kitchen garden properly sheltered, the orchard, and other gardens usually merging into park lands or open country. A running stream, placid pool, and verdant lawns add restfulness and harmonise the architectural lines of the building with the surrounding landscape. Fortunately the charm of a house does not depend on the size, and the smallest garden is capable of enchanting transformation when skill and artistic advice are brought to bear on its planning. A garden should be restful, and the ideal one from an artistic point of view should contain the greatest possible number of pictures, harmoniously united. He who aspires to make one must not rely on the friendly aid of nature to cover up his deficiencies. The capacity to recognise beauty is not in itself sufficient, he must acquire a knowledge of the technique of creating beauty. Perhaps the best way to secure unity is to determine that one feature shall be more important than the others, which should be grouped or disposed around it in subordinate positions and suitable proportions. On the subject of harmony, perhaps, the most important point, apart from colour, is the method of connection—the connecting and blending of the various essential units into one pleasing and restful picture.

The architect's ideal is so to arrange the plan of a house that no other structure could conceivably appear to be more appropriate to the situation. He should try to plan his garden in such a way that no other treatment could be in truer sympathy with the house; the house and the garden must, therefore, be considered as indivisible parts of one composition. It should never be forgotten that the house is the heart of the whole scheme, its raison d'être. It should overlook the fairest scene of the garden, and from the garden should display its most favourable aspect. Unity of composition will be emphasised by an extension of the axial lines of the house into the garden, either in the form of main walks or central vistas. In the arrangement of a vista care should be taken that the dominance of the main view should not be weakened by the opening of side vistas on such a scale as to compete with and distract the eye from the principal lines of sight. Left to herself nature will ruin any garden; on an exposed site the ruling spirit may be a lusty wind, which must be checked in its force before success can be hoped for, and this may necessitate a material alteration of one's arrangement.

The complexity of the subject of garden design will be admitted, but in the immediate vicinity of the house the main issue is comparatively simple. One may safely say it is always desirable to arrange a few principal features, which are commanded by the main windows of the house, and combine with them a number of secluded scenes of a special character. The question as to whether a formal or an informal garden is the better is almost entirely a matter of appropriateness or fitness to the particular site under consideration. What is usually meant by formal and informal when referring to gardens? Different individuals may have different opinions, but we may take it generally that a formal garden is one in which we frankly dispense with the direct guidance of nature in the making of the picture. Although a formal garden does not necessarily preclude the full development of trees and plants, the positions occupied by them are strictly defined, and their relations to each other is such as would seldom occur in natural planting. In the informal garden we make a pretence of following nature, but in reality we persuade her to take a form of our choosing. Although not symmetrical as a whole, such a garden may contain detailed features or ornaments of regular shape in suitable positions.

One of the chief resources at the disposal of the garden designer is turf, the texture and colour of grass being so serviceable that it will carry the eye over a gap like a sunk road or fence without any apparent break in continuity. Beyond the garden boundary it will reappear and serve the form of a connecting link with some distant view. It is one of the principal agents in bringing our entire garden schemes into harmony, and one might almost say, "When in doubt use turf."

Ample provision must be made for flowers, upon which, after all, the intimate pleasure of the garden depends. If the size of the scheme will not permit of a rose garden as a complete unit, then beds should be reserved and specially prepared for roses, without a good selection of which no English flower garden is complete. The charming old-world effect of well-filled herbaceous borders flanked by stone flanked paths will not be forgotten, nor will the draped effect of a well-proportioned pergola.

Where possible, a rock garden should take the form of a distant unit, as secluded from the formal garden as practicable. The larger the size and the fewer the pieces of stone used in its construction the better the result. The effect of a natural outcrop of rock can only be reproduced by a study of nature and after considerable experience. For paths and terraces natural faced hard stone flags produce an artistic and old-world effect. They are permanent and need a minimum of attention. They may be coursed or laid at random in either rectangular or irregular pieces, and they are most frequently laid with open soil joints to encourage vegetation.

Discussion.

Mr. G. Salway Nicol, in proposing a vote of thanks to Mr. Hodson, said that he thought the subject of garden design to be one of supreme importance, certainly the subject was an architectural one. A garden should be intimately related to the house or building it encompasses, and should certainly form a harmonic complement of a scheme of which the house is the central feature. The gardens of Italy—even the very small ones—had taught us much in the way of garden design, and the conception of many of the magnificent gardens which formed an essential setting to the manors and halls of Elizabethan times were largely the outcome of a careful study of the charming gardens of Italy. Mr. Nicol said that one of the greatest problems in garden design that architects of this country had ever had to tackle was the lay-out of our military cemeteries in France. He had been associated with Sir Edwin Lutyens and Sir Reginald Blomfield in this matter and knew well what difficulties such an undertaking presented.

Mr. A. T. Butler, who seconded the vote of thanks, expressed great pleasure at having been privileged to hear so interesting a paper. The vote of thanks was passed with acclamation. Mr. H. T. Buckland, F.R.I.B.A., the president, occupied the chair and fifty-one members and friends were present.

Enquiries Answered

Quantity Surveying.

"Student" writes: "(1) Please mention books on quantity surveying suitable for spare-time study. (2) Is there a good correspondence course for the F.S.I. exam.?"

—(1) Suitable books are: "The Quantity Surveyors' Assistant," by George Stephenson (Batsford); "Quantity Surveying," by J. Leaning (Spon); "Builders' Quantities," by W. E. Ballard (Longmans, Green); and "Quantities," by H. Phillips Fletcher (Batsford) [temporarily out of print]. These books may be obtained through our own office. (2) Yes. Communicate with Messrs. Parry, Blake, and Parry, 82, Victoria Street, Westminster, S.W.1.

Qualifications for A.R.I.B.A.

J. W. writes: "What qualifications and procedure are necessary to become an Associate R.I.B.A.?"

—Every person desirous of qualifying for candidature as Associate must have attained the age of twenty-one and must pass the examinations of the Royal Institute. The examinations, which are held at such times and places approved by the Council, are written, graphic, and oral, and relate to the history of architecture, the characteristics and details of architectural styles, the nature, properties, and application of building materials, sanitary science, the principles and practice of construction, the design and arrangement of buildings, professional practice, etc. Should our querist decide to sit for the examinations he should communicate with the Secretary of the R.I.B.A., 9, Conduit Street, London.

Reinforced Concrete Bridges.

F. G. writes: "Where are the largest-span reinforced concrete bridges to be found?"

—The largest-span reinforced concrete bridge in Europe is at Rome (Italy), over the Tiber, and has a single span of 328 ft. The largest in England is the Mersey Bridge at Warrington, which has a clear span of 134 ft. and a width of 80 ft. The largest reinforced concrete bridge is the Tunkhannock Railway Viaduct (U.S.A.). This viaduct is 2,375 ft. long, 67 ft. wide, and comprises ten arches of 180 ft. span and two arches of 100 ft. span each. At Auckland, New Zealand, a reinforced concrete bridge has been constructed with a span of 320 ft.

---

* Extracts from a paper read before the Birmingham Architectural Association.

The Week's News

Chapel-en-le-Frith Housing.

The R.D.C. have decided to apply for loan of £150,000 for housing.

Housing at Louth.

Fifty houses are to be erected by the T.C.

Hereford Housing.

Two hundred and thirty-two houses are in course of erection.

Housing at Tunbridge Wells.

Fifty houses are to be built by the T.C. at a cost of £55,000.

Ex-Service Men Builders at Worcester.

Fourteen dwellings are being erected at Worcester by ex-Service men.

New Cinema at West Hartlepool.

A new cinema has been opened at West Hartlepool.

Camden Town War Memorial.

A clock tower is to be erected by public subscription in Camden Town as a war memorial.

Eton Housing Appointment.

Mr. J. C. Burgess has been appointed architect for the Eton R.D.C. housing schemes.

Arbroath Housing.

Application is being made by the T.C. for sanction to a loan of £100,000 for housing.

Flats and Cottages at Kensington.

To build flats and cottages on the St. Quinton estate the Kensington Borough Council are borrowing £39,000.

Housing at Bournemouth.

The Ministry of Health have sanctioned the borrowing of £120,000 for the housing scheme.

Gloucester Housing.

The Ministry of Health are being asked by the R.D.C. to sanction a loan of £13,300 for housing.

Bulwell Housing.

Nottingham Housing Committee have decided to erect houses on land in their possession at Bulwell.

District Hospital for Strabane.

Strabane Guardians have decided to convert the workhouse hospital and the fever hospital into a district hospital.

New Stand for the Oval.

A proposal is afoot to construct a steel and concrete extension to the stand of the Surrey County Cricket Club at Kennington Oval.

Half Million Housing Scheme for Hull.

Hull Corporation Health Committee have accepted the offer of the Office of Works to erect 500 houses at Hull, at an estimated cost of £500,000.

Mr. J. N. Gilmore.

Mr. J. N. Gilmore, architect, Lemahagow, has been elected a Fellow of the Glasgow Institute of Architects, and of the Institute of Scottish Architects.

Crewe Council's Purchase.

Crewe T.C. have decided to purchase Linden Grange, a large residence with over five acres of land and gardens, as a maternity and child welfare centre.

Asfordby Water Supply.

The Melton Mowbray R.D.C. have asked Messrs. W. H. Radford and Son, of Nottingham, to investigate and report on the probable cost of a water supply.

Housing at Hampstead.

By their South-end-green housing scheme the Hampstead Borough Council make provision for 140 dwellings in four separate blocks, each comprising first, second, third, and fourth floors.

London Guild of Builders.

The London Guild of Builders has begun work at Greenwich, as well as at Walthamstow. The contract provides for 230 houses.

Burnham-on-Sea War Memorial.

Burnham-on-Sea Permanent Memorial Committee propose to erect a cottage hospital to cost some £2,000. Mr. P. Fry, of Weston-super-Mare, has prepared plans for the building.

New Hospital for Swansea.

Craig-y-Nos Castle, in the Swansea Valley, has been acquired by the King Edward VII. Welsh National Memorial Association for conversion into a hospital for the treatment of tuberculosis.

243 *Dwellings Completed by L.C.C.*

The London County Council, under the Housing Act of 1919, have completed 243 houses and two shops, and 1,262 houses are in course of erection.

Coal-Handling Plant for Brighton.

The Corporation have decided to apply to the Electricity Commissioners for sanction to a loan of £5,000 to defray the cost of installing a complete coal-handling plant at Southwick Works.

Standish Housing.

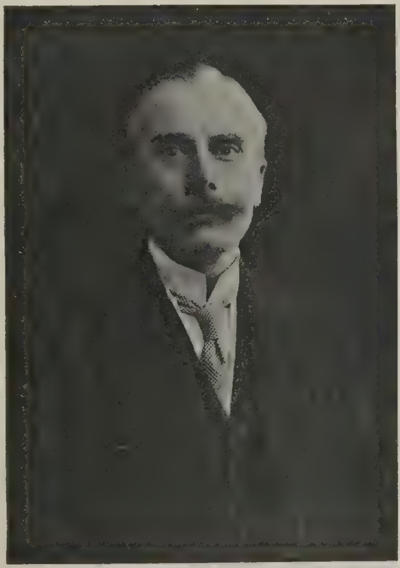
The R.D.C. are applying to the Public Works Loan Commissioners for sanction to a loan of £20,000 for the erection of houses and £1,250 for the purchase of sites.

Ballantrae War Memorial.

The Committee for Ballantrae have selected a design for a War Memorial prepared by Sir Robert Lorimer, A.R.A., F.R.I.B.A., Edinburgh. A site has been approved of.

Housing at Walthamstow.

The first ten houses have been completed at Highams Park. Five hundred and fifty-one houses are now being built, the total area of land included in the scheme being 215 acres.



MR. E. C. P. MONSON, F.S.I., F.R.I.B.A.,

who has been appointed architect for the New Town Hall at Islington.

Novel Flat Scheme.

On the Portland town estate in the West of London large blocks of high-class flats —service or otherwise—are to be erected. It is proposed to sell the lease of each flat for a long term at a nominal rent.

Bakewell Housing.

Bakewell R.D.C. have sealed the contract with a London firm for the building of a number of houses in the district. The Council is to borrow £50,000 towards carrying out the scheme.

Change of Address.

Mr. W. Curtis Green, F.R.I.B.A., has moved to 5, Pickering Place, St. James's Street, S.W.1. Telegraphic address: "Modillion, St. James, London." Telephone: Regent 2893.

Mr. John D. Butler's Will.

Mr. John Dixon Butler, F.R.I.B.A., of Little Danemead, Wolesey Road, Molesey, Surrey, architect and surveyor to the Metropolitan Police and Police Courts, who had designed over 200 police buildings in the metropolitan area, left £3,593.

Middlesex War Memorial.

As a memorial to the men of the Middlesex Regiment and of all other Middlesex units, and to Middlesex men who gave their lives in the war, it is proposed to erect a monument in the Canning enclosure, near the Middlesex Guildhall.

Presentation to Mr. John Hanson.

Mr. John Hanson, president of the Burnley and District Building Trades Employers Association, has been presented by the Association with an illuminated address, a diamond ring, and a gold cigarette case, in recognition of his services rendered as president in the years 1915-20.

St. George's Chapel, Windsor.

At St. George's Chapel, Windsor Castle, the old flying buttresses are to be rebuilt and the roof made safe. When the restoration of the interior is begun a great deal of the valuable carving and the Garter Knights' banners will have to be removed, as well as the organ and stained-glass windows.

Stoke-on-Trent Housing.

Messrs. C. Murray Hennell, F.S.I., and C. H. James, A.R.I.B.A., of 19, Russell Square, Bloomsbury, W.C.1, have been appointed consulting architects to the County Borough of Stoke-on-Trent in connection with the municipal housing schemes, and have prepared the lay-out plans for various sites in that borough.

Statue of King William IV.

At a recent meeting of the Court of Common Council of the City of London, a proposal was considered for removing the statue of King William IV. from King William Street to West Ham Park. A letter of protest from the Council of the R.I.B.A. was submitted to the Court, and the proposal to remove the statue was eventually rejected.

Building Materials.

Dr. Addison has stated in the House of Commons that the approximate value of the materials contracted for by the Department of Building Materials Supply during the present year was £5,000,000. The staff employed numbered 308, and the total salaries amounted to £69,570. The whole of the expenses of the staff and rent involved were recovered as part of the cost of the materials sold.

A.A. New Members.

The following have been elected members of the Architectural Association: Messrs. C. E. Sainsbury, J. A. Gatti, J. D. N. Harvey, F. A. Jamieson, T. A. D. Braddell, G. M. Mayhew, G. Whittaker, L. E. Skipworth, E. H. Palmer, C. W. Tatton-Winter, M. Kouda, J. H. Ash, A. C. S. Auld, R. Waddicor, J. W. Wood, G. J. D. Stannus, D. E. W. Bedford, A. Kfouri, G. S. Warnock, A. G. Morris, J. V. Acton, L. McConnell, and Reginald Johnston.

Death of Mr. W. H. Sugden

We regret to announce the death, at the age of seventy-one, of Mr. William Hampden Sugden, of Keighley, a member of the firm of Messrs. W. H. and A. Sugden, architects. Mr. Sugden served his articles with his uncle's firm, Messrs. William Sugden and Co., architects, Leek, Staffordshire. He began to practise on his own account about 1882, and his younger brother, Mr. Arthur Sugden, went into partnership with him in 1893, the style of the firm being Messrs. W. H. and A. Sugden. Among the important architectural work carried out by this firm were Morecambe Tower, Kidsgrove Church, Steeton Manor (for the late Sir Swire Smith), St. Barnabas Church, Keighley, and the Keighley Hall at Poix-du-Nord, France. In open competition Mr. Sugden's plans were accepted for Newcastle-under-Lyme Town Hall and Hanley Chapel, and for many years his architectural designs had been exhibited at the Royal Academy.

Messrs. Sankey's Annual Dinner

Messrs. J. H. Sankey and Son, Ltd., of Essex Wharf, Canning Town, recently gave their second annual dinner to their managers, representatives, and clerical staff at the Café Monico. A company of about sixty sat down, presided over by the chairman and managing director, Mr. Charles Sankey.

After the loyal toast, Mr. H. G. Clark, manager of the Hendon branch, gave "Success to the Firm." His remarks were followed with much interest and attention, especially his words of encouraging advice to the junior members, who were to take their places later. His complimentary references to the principals found unanimous approval.

Mr. Herbert Sankey, responding, thanked the proposer and the company for their hearty reception of the toast.

Mr. H. Perkins, manager of the Plumstead and Dartford group of depots, proposing "The Chairman," made a strong point of his accessibility and sympathy to all in the service, and made special reference to the institution of the provident fund on the part of the firm, and to the liberality with which they had endowed it and were contributing towards it.

Mr. Charles Sankey, in reply, assured the meeting that the welfare of them all was near to his heart, and, after giving a résumé of recent events, he struck an optimistic chord as to progress in spite of the many obstacles which still beset the trader. The firm had risen superior to its difficulties, but, like others, found much irritation to contend with, though this did not materially affect the one dominant ideal of the firm, which was progress. He thanked the proposer and the company for the very feeling terms and the hearty manner in which his name had been received.

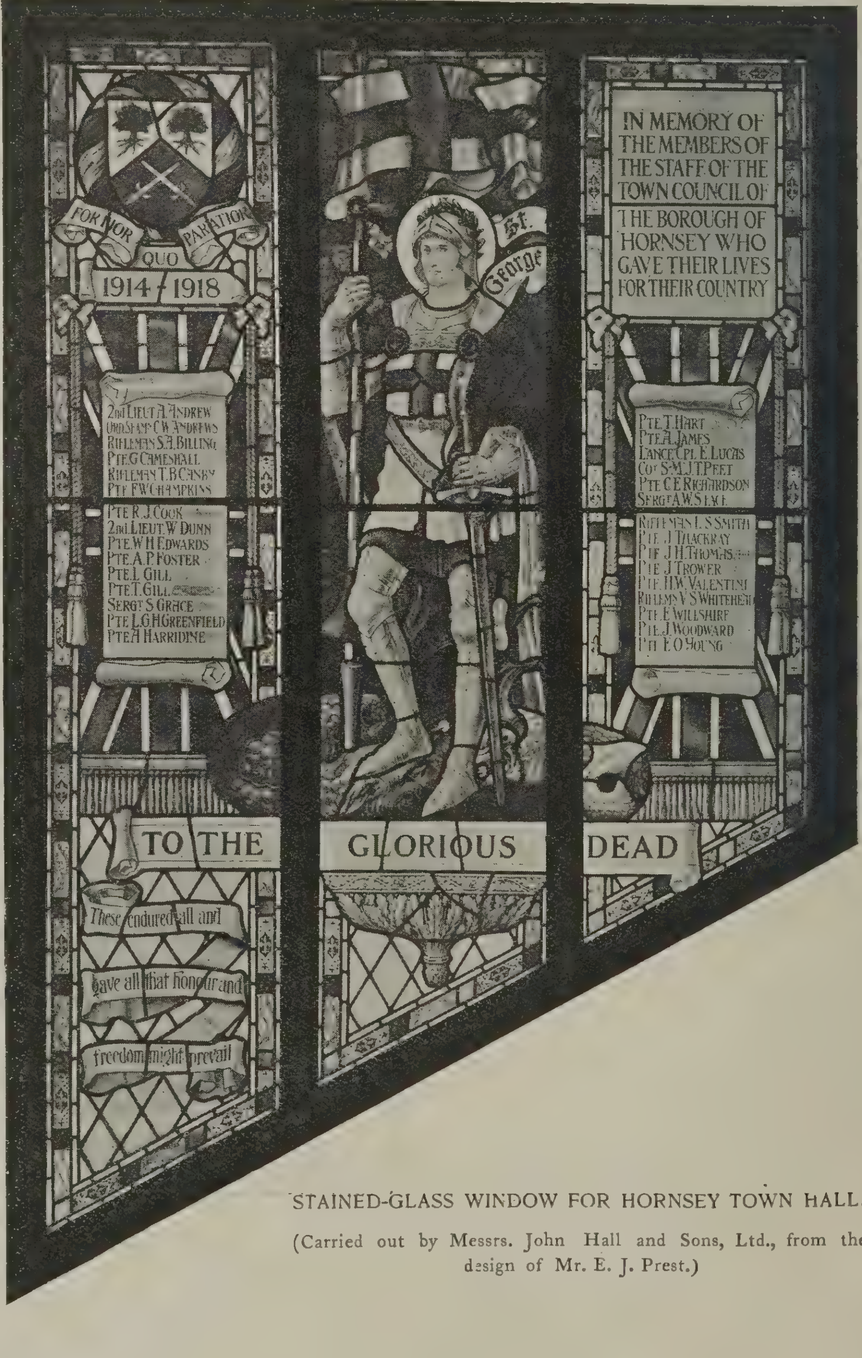
The toast of "The Guests" was proposed by Mr. E. Bailey, the secretary, who, after a sympathetic reference to the absence of Mr. Percy Sankey, at Liverpool, and Mr. H. A. Smith at Maidstone, congratulated the meeting on again having Major Sankey, one of the directors, in their midst.

The toast of "Thanks to the Firm" for their delightful evening, was proposed by Mr. L. Shearmur, one of the oldest servants of the company. Mr. G. Groves, London representative, seconded the toast. After dinner the whole party adjourned to the London Pavilion, where seats had been kindly booked for all by the firm.

Christmas Celebrations in a Varnish Factory

The chairman of Messrs. Robert Ingham Clark and Co., Ltd., Mr. F. W. F. Clark, supported by Mr. R. F. Clark and his wife, and Mr. R. H. I. Clark, has entertained the children of the office and works staff to tea in the works dining hall. After tea the party trooped to the exhibition hall to make the acquaintance of Father Christmas, who conducted them to a gigantic Christmas tree loaded with presents. After the distribution of presents the little ones enjoyed an old-time Punch and Judy show. An hour of organised games followed, and at 7.30 the party broke up, tired but radiantly happy. The credit of organising this entertainment rests with the Abbey Langthorne Sports and Social Club, an organisation instituted for the social welfare of the firm's employees.

The increasing interest taken by firms in the social life of their employees is a gratifying sign of the new spirit in industry.



STAINED-GLASS WINDOW FOR HORNSEY TOWN HALL.

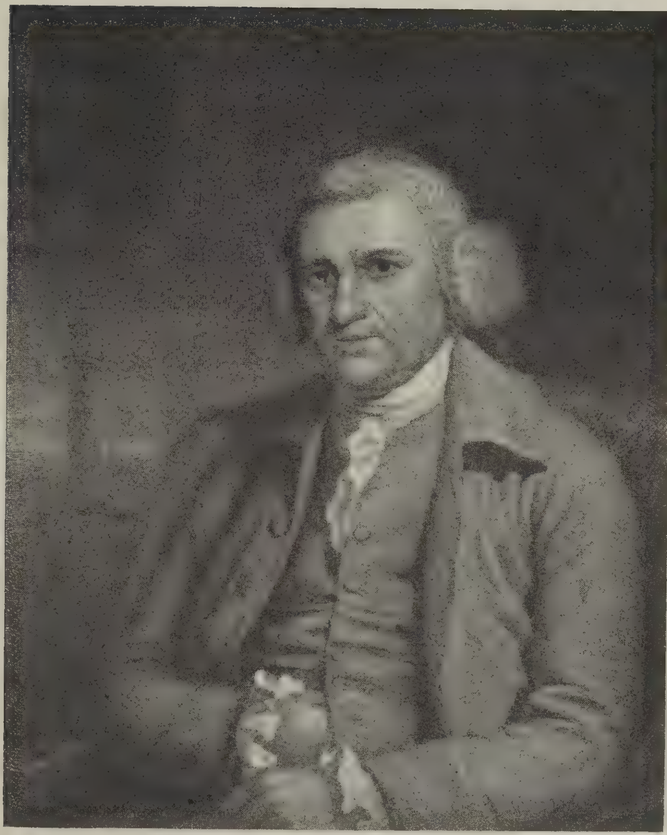
(Carried out by Messrs. John Hall and Sons, Ltd., from the design of Mr. E. J. Prest.)

Wednesday January 12, 1921

Volume LIII. No. 1358

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



JOHN SMEATON (1724-92).

Originally intended for the law, Smeaton, born at Rusthorpe, near Leeds, showed an early preference for mechanics, becoming a mathematical instrument maker as a preliminary to taking up the study of engineering, in pursuit of which he visited Holland and Belgium, inspecting the chief engineering works there. His most famous work was the rebuilding of Eddystone Lighthouse, burnt down in 1755. He was the surveyor and engineer of the Forth and Clyde Canal, and engineer for the improvement of Ramsgate Harbour.

27-29 Tothill Street, Westminster, S.W.1.

Modern Architecture. 4.—Building in Gordon Street, Glasgow

Alexander ("Greek") Thomson, Architect

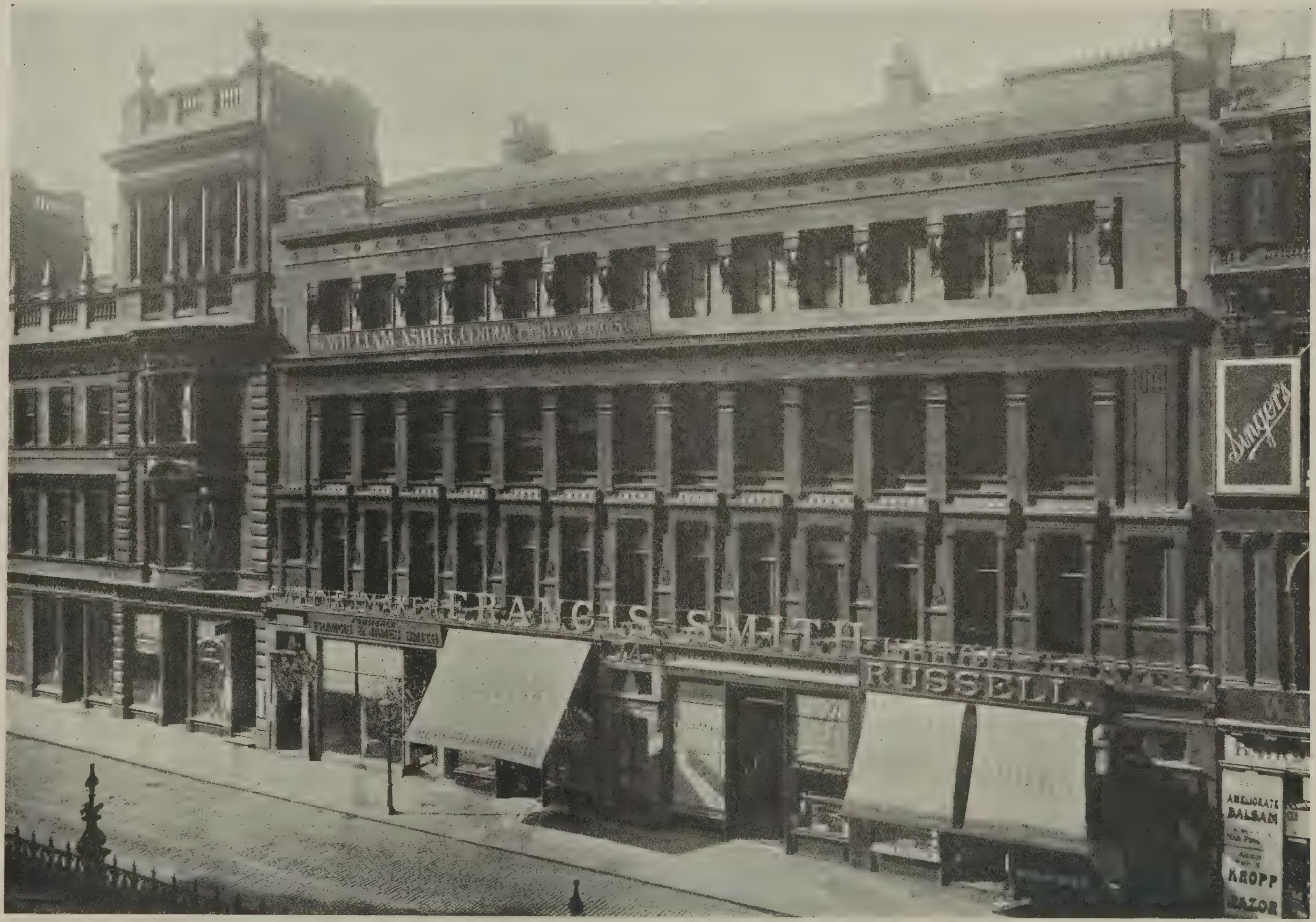


Photo: *Annan.*

In this building the needs of the shopkeeper receive full consideration. There is an air of solidity combined with elegance in the treatment of the upper storeys. Note how the first-floor storey is blended with the shop fronts below. The introduction of a pilaster order is here seen in its best form. The façade is remarkable for sequence in composition and the rhythmic disposition of vertical and horizontal elements, It is a great pity that it should be marred by such gross lettering.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, January 12, 1921 Volume LIII. No. 1358

Notes and Comments

Another Building Trade Crisis

YESTERDAY (Tuesday) the Emergency Committee of the Federation of Building Trades Operatives held a special meeting to debate the pros and cons of reduced wages and longer working hours. No doubt the Committee's recommendation on the subject will not be allowed to filter through to the Press until it has been communicated to the Council of the Federation, and by them submitted to the decision of the general body. It is a slow and tedious process, from which the ultimate issue is apt to emerge in a somewhat different complexion from that originally given it. What, then, is the actual attitude of the operatives on this question of bringing labour costs to a reasonable and practicable level is not likely to be seen immediately. What can be confidently assumed, however, is that at length the tide has turned—that the economic situation demands from labour more favourable terms of production. In the building industry the unreasonable exactions of labour had been felt to be intolerable even before the war, and now that these have grown to three times their pre-war magnitude, and are accompanied by such exasperating addenda as the refusal to permit a very necessary augmentation of the labour supply by admitting ex-Service men to the trade, and by entering into unfair competition with the employers by forming so-called guilds, it is no wonder if the organised employers are beginning to show their teeth. We trust, however, that strife will not ensue. The operatives can avoid it if only they will listen to reason. The whole subject should be thoroughly and dispassionately threshed out at the next session of the Builders' Parliament, which will be held in London on February 10 and 11.

A Potent Appeal

We feel constrained to call the attention of the Profession to a duty that it is neglecting, or is, at all events, performing very inadequately. A month ago a circular, signed by Mr. John W. Simpson, President of the R.I.B.A.; by Sir Charles Ruthen, President of the Society of Architects; and by Mr. G. Gilbert Scott, President of the Architectural Association, was widely distributed to call attention to the present financial position of the Architects' Benevolent Society. The circular proclaimed the very unpalatable fact that during the last few years the subscriptions to the Benevolent Society have been falling off, the subscriptions for 1920, for instance, amounting to no more than £450. As at least five times this amount is needed annually for carrying on the important work in which the Society is engaged, the Council appealed for an additional 1,000 subscriptions of a guinea each. We greatly regret to hear that, so far, the response has been very discouraging, not more than five per cent. of those to whom the appeal was made having responded. This we should have no hesitation in describing as a perfectly disgraceful result, did we not know how hard the Profession has been hit; but the tragic cases of hardship that come before the Council with such painful frequency are unhappily symptomatic. They are extreme indications that professional prosperity is, for the moment, at a very low ebb, and the unfortunate fact is further confirmed by so poor a response to so urgent an appeal. When the need is greatest, the ability to meet it is least. Happily there are, however, many architects who are in a position to subscribe to this most beneficent fund, and we are sure that, did they but realise how sorely their help is needed, not for another hour would they withhold it. This fund should, without delay, be made worthy of the Profession by placing it beyond the reach of calamity, and making it fully adequate to the Profession's needs, and a comfort to the R.I.B.A. instead of a chronic source of anxiety. Subscription to it should be a compulsory condition of membership were not voluntary giving an essential element of generosity.

Tampering with the Telephone

To-day, at the request of the Newspaper Proprietors' Association, Mr. Illingworth, the Postmaster-General, receives a deputation regarding the new telephone rates. If it fails to make him a convert to common-sense, we shall begin to think that there must be some kernel of truth in the widespread theory that the Government, at its wit's end to raise revenue, has turned profiteer, and hopes to raise by exploiting the public services the money it must get somehow, but dare not try to obtain by further direct taxation. Yet the lesson of the heavy railway deficit should have convinced the Ministry that increased charges do not invariably imply increased revenue, but that quite commonly and very naturally they have the opposite effect. Nevertheless, the Postmaster-General seems bent on demonstrating still more convincingly (if that were possible), by means of the telephone, the futility of expecting to get more money by the simple process of exacting more. If, as may be confidently predicted, the old flat-rate for telephone renters is superseded by a message-rate, the least regrettable result will be the falling-off in revenue that is certain to ensue. Far more serious will be the disastrous effect on business. If it be admitted that, under the flat rate, the telephone is used wastefully in superfluous calls and frivolous gossip, and that a message-rate would minimise this abuse, then, on the other side of the argument, it may be urged that a too-drastic remedy has often proved more deadly to the patient than to the disease. Equally with the rest of the office-keeping community, architects and builders, who transact a large volume of business over the 'phone, would certainly rejoice to be rid of frivolous and vexatious calls, but this relief would be much too dear at the price of a considerably reduced volume of business. Often a casual call or a chance remark over the 'phone has led to huge business developments, and such events must obviously grow fewer as the number of messages is curtailed. It sounds rather odd to say it, but it is clearly a truism, that fewer 'phone messages would, in the long run, imply fewer buildings. The telephone having become indispensable to the architect and builder, and, indeed, an indispensable adjunct to civilisation, we feel it to be a public duty to join vehemently in the protest against this incredibly foolish freak of tampering with its utility. In one way and another, the Government seems fated to illustrate —very extravagantly—the evils of nationalisation, more especially the devastating results of treating an important public service as a mere instrument for extorting revenue. This vicious principle is rampant at the Post Office, which, having cruelly maimed its carrying service, is now lusting to commit further outrages on the industry of the country.

Lansdowne House Changes Hands

Lansdowne House, which has been acquired by Mr. H. Gordon Selfridge, who will use it as his residence, was begun in 1763, or thereabouts, by Robert Adam for the Earl of Bute, and was not quite finished when the Earl sold it to the second Earl of Shelburne, who, as Prime Minister was a leading figure in conducting the negotiations that recognised the independence of the United States, and who, thereafter, was created Marquess of Lansdowne. He died in 1805, and it is said that the secret of the identity of "Junius" perished with him. If Mr. Selfridge has taken over the contents of the fine old house, he is now the enviable owner of nearly the richest private collection of sculpture and painting in England; for Lord Shelburne was an ardent collector of the former, and the third Marquess of Lansdowne a no less enthusiastic purchaser of paintings. Gavin Hamilton was sent into Italy to buy the sculptures, on which he spent £6,000 —about a thousand a year for the time devoted to his delightful task. Among the paintings are examples of Giorgione, Velasquez, and Murillo, and some particularly fine examples of Romney, Reynolds, and Lawrence. The paintings are not now arranged formally in an art gallery, but are dispersed through several rooms, which is the natural and humanistic method of displaying works of art in a private house. The pictures were greatly depleted when the second Marquess allowed them to be put up for auction. For the "antique marbles," however, he had a greater liking, paying £6,000 for them to his father's executors.

The "Seasonal Trade" Tradition

"Seasonal trades" have been accepted as such with fatalistic resignation. For example, most persons suppose that painting cannot be done in the winter. Acting on this superstition, they let the painter go unemployed in what they imagine to be the "off season," and make up for starving him in the winter by overworking him in the spring, when, as a recent parodist has said, "all men's fancy lightly turns to thoughts of paint." Far too lightly, indeed, for the results of reflection and inquiry would convince these light-hearted persons that most painting and renovating work can be done equally well at any season of the year, and that those who put it in hand during the slack periods can get it done more quickly and more cheaply than those who defer the commission until the spring rush sets in, when the fierce competition for men and materials not only tends to send up the prices for both, but is the cause of much vexatious delay through clients having "to wait their turn." With respect to most painting work, therefore, "Do it now!" is on all grounds an excellent motto, for now it can be done advantageously for the client, who will not have to pay competitive rates for it, and will not have to wait an inordinately long time before his work can be undertaken; advantageously also for the painters, whom it will relieve of the hardship and distress of seasonal unemployment. With these facts the architect is, of course, familiar, but, struck by the justness and humanity of the plea which a well-known firm of contractors are putting forward in their advertisement in this week's Journal, we would remind professional men that they can do much to remove from the minds of clients the mischievous misconceptions on the subject that are so widespread and so firmly rooted, and are unnecessarily swelling the ranks of the unemployed.

Unemployment Insurance

A group of employers and representatives of labour (who for the present prefer to remain anonymous) have drawn up a scheme of unemployment insurance that may serve to be a useful contribution towards the solution of a very difficult problem. That it will solve it we do not think at all likely. If, in the building industry, you were to give as unemployment benefit fifty per cent. of the average earnings, plus ten per cent. for a wife and five per cent. for each dependent child under sixteen, unemployment would become chronic. The cost of the scheme is estimated at fifty-six million pounds a year, the contribution being levied on the wage-earner, the State, and the employer; the worker paying twopence in the pound of his earnings, the State four millions annually, and the employers the residue. We hesitate to condemn the scheme before it is fairly launched; yet, since discussion is expressly invited, we feel bound to express the opinion that the building industry will reject it as being utterly impracticable as to its details; and very few economists or actuaries will be found to admit that it is sound in principle.

Cinema Architecture

So few were the new buildings that were completed during the past year, that it would be unsafe to deduce from them any inference as to the trend of style. There seems to be, however, especially in the Provinces, a leaning towards the gaiety of the picture-palace façade. This is natural, although regrettable. A commercial building need not wear so markedly attractive a face as a picture-palace, which has no means of subsistence beyond its power of direct enticement; but the presence of a cinema in every important street of a town must inevitably react on the design of the new buildings that are put up within its sphere of influence. Hence the temptation of the flighty architect to become more gay in his designs, and of the steady-going designer to make his designs more dull with the object of averting suspicion of his having fallen under the baleful influence of these upstarts; with which the proper way is neither to imitate them weakly nor to rebuke them openly by opposing violent contrasts; but, in the first place, to exert all possible means of getting them decently designed, and afterwards to ignore them completely if they are bad, and not to be unduly influenced by them when they are really handsome, as some of them certainly are—whether in a bold and shameless way, or with becoming modesty. In any case, picture-houses must be taken into account. For the moment they are, by their all-pervasiveness and their pronounced features, the most potent menace to street architecture, which they may either redeem from dulness or betray into folly. That the former effect is likely to prevail may be confidently inferred from the fact that picture-playhouse design is increasingly coming into the hands of architects who have a reputation to maintain. What fine creations in this kind we might have had from Mr. E. A. Rickards, to whom the soul of Baroque had revealed its innermost secrets. A further reason why first-rate architects are willingly turning their attention to this type of building is their knowledge that the cinema theatre will soon, in some instances, take on the character of a specifically educational institution, and will be designed in conformity with the dignified functions implied.

Human Nature in Industry : A Psychological View

2.—Like Master Like Man

By E. J. G. ALFORD, M.A. (Cantab.)

Last week, in his first article in this series, Mr. Alford discussed the question, " What is a Firm ?" In the present contribution he deals with certain subtle but potent influences—such as condescension (more or less unconscious) on the one part, and equally elusive resentment of it on the other—which tend to frustrate imperfect endeavours to promote more cordial relations between employer and employed.

ONE of the principal difficulties in the way of creating a new sentiment in industry, over and beyond initial prejudice against any such notion, lies in the past failures of a certain type of would-be progressive employer to evoke a responsive spirit among his operatives. The plaint is heard, " Look what we do for the men, and at what we get in return ! " But why ? The phraseology is significant in a way that goes to the root of the psychological problem. One concept—" we," the givers—is set over against another, " the men," the receivers. The group sentiment is absent from the initiative mind at the outset. Careful analysis will reveal this attitude as dangerously akin to implicit bargain-making on a basis of gratitude.

With any ethical pros and cons touching this matter I am not here concerned. My business is simply to point out that beneficent action undertaken to stimulate industry by creating a bond of personal appreciation or gratitude is, in the nature of things, bound to fail. For gratitude is a complex emotion, involving a simple emotion of specific and painful quality, variously named Negative Self-Feeling, or Subjection, to which is due the dangerous tendency of gratitude to slip over into a sentiment of superiority on the part of the beneficent and of inferiority on the part of the grateful. And this tendency is particularly marked when gratitude is looked for before it is given. Few people are so constituted that they can exert direct beneficence without at least unconscious condescension, and equally few who can be grateful without conscious or covert resentment.

This potential defect of gratitude is universal. It is unavoidable when the relation is evoked between two groups already largely in conflict over deeply felt questions of human value and equality. The self-sentiment of the worker—that is to say, his organised system of ideas and feelings regarding himself—includes a highly toned conviction that only in the results of intellectual development is he unable to stand on a level with the employer; that the differences in mental and moral calibre between the two groups are ultimately due to the chance differences of material environment at birth. He is, in fact, resentfully conscious of a certain inferiority, and, being human, is more conscious than he cares to admit. Arguments on the merits of this claim are futile, because they will annoy without convincing. Moreover, they are almost certainly fallacious, being founded not on the impartial consideration of evidence, of which there is practically nothing of scientific value either way, but on the rationalisation of whatever sentiment they are designed to support. The wise employer, whatever his own opinion, will respect the conviction and sentiment of the worker, not because it is necessarily true or justified, but because it is an inevitable condition of the problem with which he is faced. He will not merely not look for gratitude ; he will avoid it like fly-blown food. There is imminent risk of infection there.

At the other end of the scale to patronage, but with the same basis in the superiority-inferiority sentiments, lies insistence on arbitrary power. How many employers, managers, foremen, and persons in all kinds of authoritative positions, habitually assert their power in order to intimidate their subordinates into a submissive state of mind ! It is part of the regular stock-in-trade of the competitive world. The junior Civil Servant keeps his visitor waiting twenty minutes in the outer office. It produces " effect." The publicity expert enters with a large ivory-mounted malacca cane and places it on the edge of his client's table. Again, it produces " effect." In a recent conversation with the foreman completing a large building work, I asked what was the average period of employment of the men in different trades engaged on the job. He replied, " Most of the men who dug the foundations are here still. When I get good men I like to keep them together. I don't give them the sack, like some do, *just to show they can.*"

The attitude of arbitrariness is to be found even where it should least be expected. On another recent occasion I was present at an interview between a director of an industrial concern and a prospective Welfare Supervisor. The applicant was introduced by the retiring supervisor, who stood at an ill-at-ease attention, and addressed his employer with the timid and resentful respect of a schoolboy for an unpopular master. The employer proceeded to conduct the interview with the obvious intention that the relation of director and prospective employee should not be forgotten. The salary was in his pocket to give or withhold. Conversation closed with the stock information, gently but suitably emphasised, that there were a number of applicants for the post, and that the decision of the directors would, etc. The implications of this attitude, and its results on the mind and interest of the Welfare Supervisor, and hence on the spirit of the works as a whole, hardly need expounding.

Misapprehension as to the effect of resentment, whether due to patronage or intimidation, on industrial efficiency, is the most disastrous of mistakes. Work unwillingly performed is partially or poorly performed, and insistence by the employer on the duties of labour,[*] however genuinely inspired, cannot alleviate the evil. I am referring not merely to deliberate under-production. The unwilling worker, whatever his stimulus, is just so far incapacitated by his divided state of mind. For anger (resentment) and fear (intimidation) are essentially non-creative emotions, whose allied instincts are respectively to destroy and to flee from the stimulus which creates them. And the stimulus in the case we are considering is the employer and his environment. That is to say that work based on intimidation (by implicit threat of unemployment or what not), or associated with resentment involves divided attention and a conflict of motives, and must thereby result in cerebral fatigue and its attendant loss of efficiency. Intimidation, or a sense of duty, may be a temporary spur to production, but the increase in activity is achieved at a cost which must be paid even if only in the long run.[†]

The third alternative to " doing something for the men " and to doing nothing, is to offer every facility and encouragement for the men to do something for themselves. Here, too, there are pitfalls, for operatives and employees, despite their desire, are unaccustomed to and will very likely be suspicious of any proffered form of self-determination. Also they may doubt themselves. Labour is probably already organised in the works on a purely combative basis, and the growth of a new motive in the group must take time. The introduction of an ambitious cut-and-dried welfare scheme (call it nothing or what you will) is more than likely to fail.

---

[*] From a current Works Magazine :—" The rule of mere force, whether it be the force of labour or capital, must now give way to government by conference and agreement, for force is no remedy, neither is force the best answer to force. . . . The younger generation marches ever onward confident in its own power to avoid the rocks ahead, and the industrial conflict will go relentlessly along unless we can change our thoughts from the personal note to the objective. *By this is meant that our duty is service to our employers and the community as a whole.*" The italics are mine.—J.A,

[†] *Vide* " Mind and Work," by C. S. Myers, F.R.S., especially chapters II. and VI. (University of London Press).

If it is entirely in the charge of a paid supervisor it will depend on his initiative and control from the start, and may degenerate into a system of mere lay curacy, beginning and ending with his personal energy and goodwill. No group-sentiment nor group-responsibility will be developed towards the firm, but only a sentiment towards the responsible individual. This is no doubt better than nothing, but it is not the best.

The formation of any sentiment is bound to be slow, and the process will meet with less opposition and run less risk of misadventure by gradual and natural evolution from small beginnings. I have in mind a firm in which the happiest results have obtained from a committee originally elected to supervise the running of a new canteen. During the war the committee also became responsible for the administration of a Patriotic Fund for the dependants of employees on active service. The committee now functions as a representative committee of operatives, clerical staff, and employers, with practically unlimited advisory powers on the administration of the works and for the arrangement by sub-committees of sports, entertainments, and the social life of the firm. No paid supervisor is employed, the committee appointing a secretary from among their own number, who is also editor of the works magazine. Should the necessity for a whole-time secretary arise, his duties would, as matters now are, be practically those of the best type of welfare supervisor, who is neither merely an employee of the directors nor a professional organiser and administrator among the operatives, but in the best sense a servant and member of the firm.

(*To be continued.*)

Architectural Causerie: Concerning Libraries

MANUSCRIPTS given, then followed the necessity of storing them. From the earliest times, when the office of priest included the functions of architect, librarian, and Minister of State, the organiser responsible for public works translated history into terms of building; and to his charge not infrequently fell the task of preparing tablets and manuscripts, with the extra duty of preserving them. From this preamble I do not mean to deduce that modern architects should be expert librarians, neither is it desirable that authorities on the working of libraries should undertake to fathom the esoteric art of building them.

* * *

The designing of libraries falls within the province of general practice. There are so-called specialists for this type of building: but it should be understood that designers are merely interpreters of given conditions, which can be termed the programme, and that the success of a library as an entity depends largely on close collaboration between librarian and architect.

* * *

The legacy of classical learning, together with the collecting and keeping of books, fell, during the early years of the Middle Ages, to the Church and to the monasteries. The Benedictines were always famous for their libraries. Some of the catalogues of these early libraries have been preserved. In mediæval times readers were rare, and books rarer still. Hence it was natural to store books with care. In the Cistercian houses there was provided a small square room without a window, which was lined with presses on the walls, and even on the door. At the beginning of the fourteenth century, the provision of a room for books, with conveniences for studying them, began to be made. At Canterbury a library was built over the Prior's Chapel between 1414 and 1443. At Durham one was formed over the old sacristy. Most of the abbeys and cathedrals at this period could boast a muniment room.

* * *

Probably the oldest structure of this kind in Europe (not forgetting the arrangements made at St. Victor in Paris for storing books) is the old library of the University of Oxford, which retains many of its original features. On the north side of St. Mary's Church is a two-storey building somewhat similar in design to Prior Crauden's Chapel at Ely, where formerly statutes were passed in the lower room, the upper being arranged for the storage of books. The books in those days were so arranged that they might be read on the spot, not borrowed on pledge or taken away. The tomes were ponderous, and required heavy desks; good light for reading, security against removal, and support for the weight of the volumes, were the conditions to be satisfied. The books were chained. At Oxford and Cambridge we can view the old form of collegiate library in the correct setting. Here can be studied the priceless manuscripts of the past, the early printed books, historical records, drawings, and charters—interesting, without doubt, from the point of view of sentiment and association, but hopelessly out of date as models for modern usage.

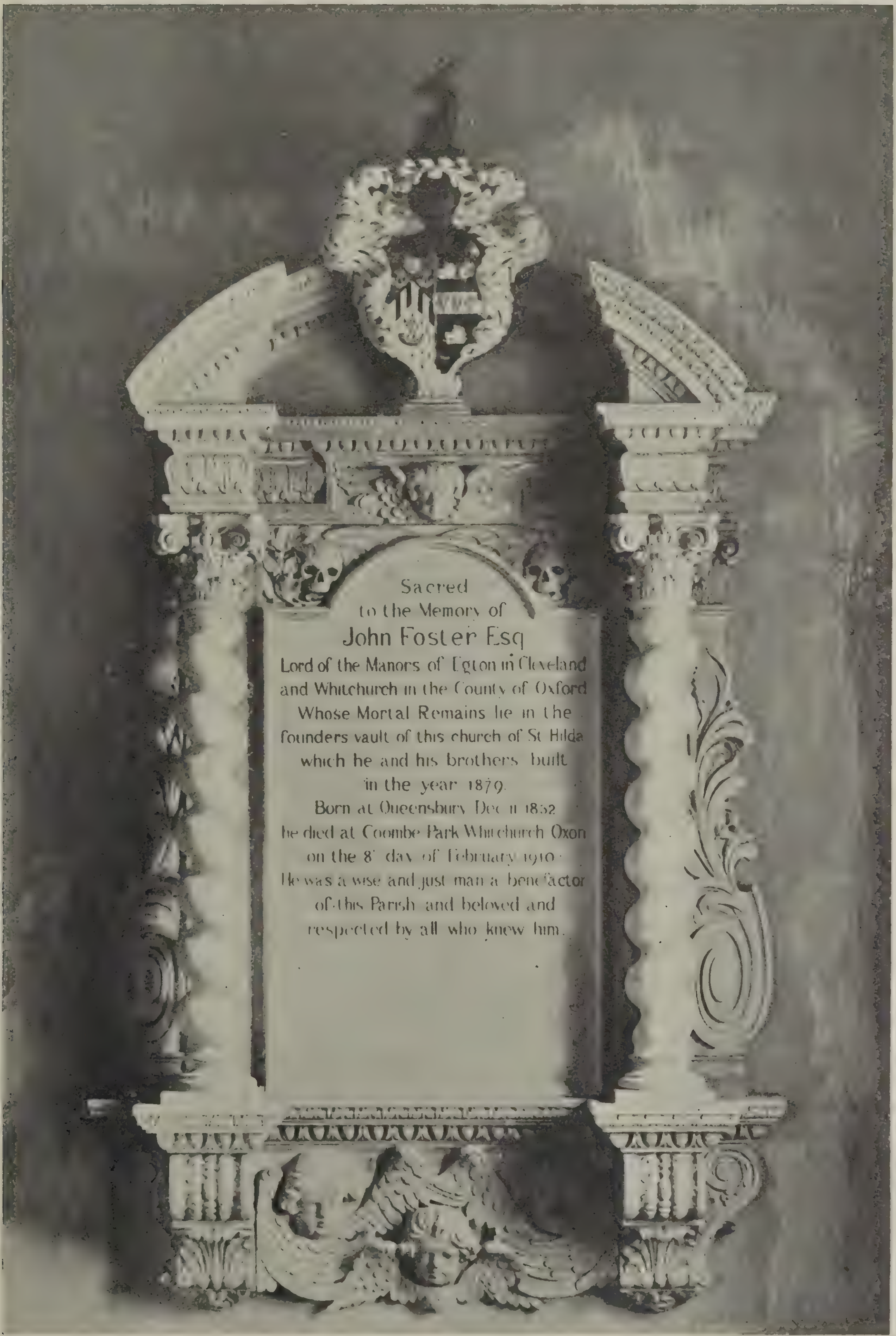
* * *

To-day libraries are considered mainly from the standpoint of efficiency. Their arrangement has to be on scientific lines, the cataloguing, grouping, circulation, working, heating, cleaning, and safeguarding, are to be determined by the peculiar conditions of site, locality, and the catholic tastes and needs of the divers readers. Many of the world's famous libraries are each and several deserving of a special monograph, but here one need do but little more than mention their existence. The Library of the British Museum dates from the acquisition of Sir Hans Sloane's collection in 1753, to which was added the Cotton collection acquired by the nation in 1700, as well as the library of the Kings of England given in 1757 by George the Second. This gift included the right now exercised by the British Museum to a copy of every book entered at Stationers' Hall. The Museum library was opened in 1759. In 1823 George the Fourth, who, in spite of opinions to the contrary, benefited contemporary art and literature, presented his royal father's collection to the British Museum, where it is housed in one of the finest architectural rooms in the Kingdom. I refer to the King's Library, designed by Sir Robert Smirke. This room is 300 ft. long, 41 ft. wide, and 30 ft. high. Perhaps the library reading-room, having claim to the best architectural disposition in the United Kingdom, is that connected with the British Museum, which resulted from collaboration between Sidney Smirke, the architect, and that most famous of librarians, Sir Anthony Panizzi. This library contains more than 2,000,000 printed volumes and more than 50,000 manuscripts. When Sir Robert Smirke designed the British Museum, the internal quadrangle was left open, but in 1857, perhaps owing to a suggestion made by Professor Hosking, but more likely due to the enterprise of Panizzi, the idea of a circular reading-room was realised, Sidney Smirke being the architect. The room is 140 ft. in diameter and 120 ft. high.

(*To be continued.*)

Details of Craftsmanship. 7.—Wall Tablet in Egton Church, Yorkshire

P. T. Kenwright, Sculptor


Sacred
to the Memory of
John Foster Esq
Lord of the Manors of Egton in Cleveland
and Whitchurch in the County of Oxford
Whose Mortal Remains lie in the
founders vault of this church of St Hilda
which he and his brothers built
in the year 1879.
Born at Queensbury Dec 11 1852
he died at Coombe Park Whitchurch Oxon
on the 8th day of February 1910
He was a wise and just man a benefactor
of this Parish and beloved and
respected by all who knew him.

This is a brilliant example of design and execution by a living artist, who has obviously made a close study of eighteenth-century work. There is a wonderful richness in the decorative detail, all of which is in excellent taste with the possible exception of the rather gruesome skulls, which are somewhat out of harmony with modern sentiment.

The Guild System in House Building

Statement by the Ministry of Health

Apropos of the resignation of Mr. Stephen Easten from the Directorship of Housing Production, as a result of his disapproval of the guild contract system, the following statement has been issued by the Ministry of Health:

It is the duty of the Ministry of Health to secure the building of large numbers of houses at reasonable prices, and they are bound to explore every possible means by which houses can be satisfactorily produced.

For the most part the contracts which have been made by local authorities are with private builders, and 93 per cent. of the houses for which tenders have been approved are to be built by private builders. It is notorious that builders have not succeeded in obtaining from the operatives a satisfactory output, and that the costs of houses are extremely high.

The Ministry have accordingly felt bound to try alternative methods. Under one of these, local authorities build by direct labour, and 5 per cent. of the houses under construction are being built in this way. So far the financial and labour results from this method are encouraging.

Another alternative method is the guild contract. Representatives of labour have claimed that good results from the point of view of output and economy would be secured by labour undertaking to build on a co-operative basis. The Minister of Health, being bound to lose no reasonable chance of progress, decided to put this claim to the test, but in view of the novelty of the proposal and the absence of experience, it was thought necessary to limit the experiment for the time being, and therefore only a limited number of schemes in various parts of the country by building guilds have been approved. The number of houses in guild proposals is approximately 1,500, as compared with the total of 167,168 for which tenders have been approved.

The schemes have not long been in operation, but already the experience shows that the output obtained compares favourably with that on other schemes, and that the costs promise to be lower than on many other schemes. At Bedwelty, where a guild scheme has been in operation for some five months, the costs up to the present indicate that if equally good progress is maintained the houses when completed will be well below the estimate and about £150 less than the average for similar houses in South Wales.

The statements that the guild contract guarantees the workers a 5 per cent. profit, and that if the guilds save £100 on a house they lose money, are not understood. The guild receives a fixed remuneration of £40 a house.

The statement that the employers' contract allows 1½ per cent. for establishment charges, while the guilds are allowed 6 per cent. for the same charges, is incorrect. Under the cost contract, which is most nearly comparable with that of the guild, the contractor receives the whole of the establishment charges on the site whatever they cost; he receives also payment for builders' plant, and for all other plant by percentage on costs, together with the costs of erecting and maintaining plant, most of which charges and some others in the case of guild contract are covered by the 6 per cent. In some instances it is already clear that the payment to builders for establishment charges will exceed 6 per cent. It has been agreed with the guild that in the event of the 6 per cent. allowed in the present contracts proving more than necessary to meet the charges which it is designed to cover, a reduction will be made in future contracts.

It is an essential feature of the guild, as with other co-operative bodies, that remuneration received shall be distributed among the guild members. The remuneration of the contractor goes into his own pocket; in the case of the guild, the remuneration is in part divided among the workers on the basis of securing for them continuous pay without deduction for the time lost by weather, sickness, or reasonable holiday, and is in part applied to improving the guild service and reducing the cost of future houses which they may erect.

This in no way prejudices the question of the allowances to be paid to the building operatives as a whole for time lost through stress of weather, and it is a specific provision of the guild contract that if any scheme of payment for wet weather is applied to the industry as a whole, the £40 remuneration to the guild shall be correspondingly reduced.

To sum up, the guild system is an experiment being tried on a strictly limited scale as a means of securing the increased output and reasonable costs which have not been secured through building contractors. It is being watched carefully, and results are being tabulated for consideration.

R.I.B.A.: New Members

The following new members have been elected by the R.I.B.A. Those under the heading of Licentiates have all passed the qualifying examination; and the Associates have passed the Special War Examination, the Special Final Examination, or come under the provisions of the Special War Exemption:

Fellows.

Clarke, J. D. (A.), Eastbourne
Constantine, H. C. (A.), London.
Couch, W. E. (A.), Westminster.
Dawson, M. J. (A.), Hammersmith.
Fulton, J. B. (A.), Glasgow.
Gage, C. H. (A.), London.
Hiorns, F. R. (A.), St. John's Wood.
Holden, C. H. (A.), Welwyn.
Kennard, J. H. (A.), London.
Keys, P. H. (A.), Singapore.
Long, C. W. (A.), London.
Mansfield, L. (A.), London.
Pierce (R.) (A.), Carnarvon.
Stewardson, R. E. (A.), Shanghai.
Traquair, R. (A.), Montreal.
Warren, P. F. (A.), Yeovil.
Wills, J. B. (A.), Bristol.

Licentiates.

Adkins, J. S., Richmond.
Alexander, S. G., Inverness.
Armour, J., Irvine.
Arthur, J. M., Airdrie.
Barker, R. B., Wolverhampton.
Bentley, A. F. C., Squirrels Heath.
Blain, W. J., Glasgow.
Blakey, R. P., Alberta.
Boswell, G. A., Glasgow.
Broadbent, F., Leeds.
Brown, W., Motherwell.
Brunton, F. S., Teddington.
Bunch, A. C., Winchester.
Cave, A. O., Letchworth.
Church, A. H., Woodford.
Craigie, J. H., Glasgow.
Crane, L. F., London.
Daniel, T. B., London.
Davidge-Pitts, H., S. Africa.
Davy, C. R., London.
Dolman, W. L., Windermere.
Dunn, J. G., Cambuslang.
Durlacher, A. P., London.
Durst, A., Watford.
Dussault, L. L., Birmingham.
English, C. W., London.
Ekins, L. G., London.
Ewen, A. J. C., London.
Fermaud, E. A., London.
Floyd, F. H., Newbury.
Forster, J., Carlisle.
Gale, E. S., Chiswick.
Gardner, H. R., Leatherhead.
Graham, P. H., New Zealand.
Grundy, S., Ulverston.
Garlick, F. J., Finchley.
Gaskell, P., Hull.
Goodrham, H. R., Stoke Newington.
Gurney, A. E., London.
Hall, J. L., Cape Town.
Harbron, G. D., Hull.
Haslock, W. E., Middlesbrough.
Henderson, H. E., Nairobi.
Hignett, C. H., Letchworth.
Holman, G. E., Buckhurst Hill.
Holtom, E. G., Holt.
Houston, J. A. T., Glasgow.
Huxley, W. S., Kuala Lumpur.
Hyams, H., London.
Jackson, T. G., London.
Jerdan, J., Edinburgh.
Jones, H. G., Montreal.
Jones, R. P., Kensington.
Jupp, S. London.
Longden, R. T., Stoke-on-Trent.
Lunan, T. M., Glasgow.
Maggs, L., Nottingham.
Malcolm, A. N., Falkirk.
Millar, T. A., Glasgow.
Morgan, C. H., Darjeeling.
Neil, H., Glasgow.
Nicholls, W. H., Madras.
Norman, G., London.
Norton, C. H., Hampstead.
Palmer, F. C. R., Putney.
Paterson, G. A., Glasgow.
Peacock, T. R., Quebec.
Pearson, L. G., Hampstead.
Petter, J., Yeovil.
Phipps, P., Chelsea.
Porter, B. A., Birmingham.
Preston, A. F., Leyton.
Reynolds, E. F., Birmingham.
Saunders, J. T., Bayswater.
Sheppard, J. M., Hampstead.
Sidwell, H. T., Rayleigh.
Simister, E., Oldham.
Sinclair, C., Glasgow.
Snell, J. S., London
Spink, H., Windsor.
Spoor, S. M., London.
Steel, J., Wishaw.
Stewart, J., Glasgow.
Still, J. E., Purley.
Swan, J. H., Amersham.
Thompson, A. J., Cape Town.
Walker, W., St. Andrews.
Weir, W. M., Westminster.
Whitburn, H. A., Woking.
Williams, R. J., Kettering.
Wilson, T. M., Golders Green.
Windsor, F., Croydon.

Associates.

Adams, W. A. C., London.
Barnett, P. W., Hornsey.
Betts, A. W., Nottingham.
Bladon, C. A., Liscard.
Bramwell, J. S., Liverpool.
Bryett, A., Putney.
Caton, W. C., Hove.
Cherry, S. V., Nottingham.
Clifton, E. N., London.
Connal, H. J., Derby.
Craig, W. H., Melbourne.
Dale, F. C. C., London.
Davidson, G., Hoylake.
Dempster, J. A., Hampstead.
Doll, M. H. C., London.
Elsworth, W., Liverpool.
Emberton, J., London.
Evans, E. E., Claughton.
Feirn, J. L., Windermere.
Forgie, A. G., Leith.
Fowler, C. W., Golders Green.
Francis, B. T., Derby.
Fritchley, G. B., Croydon.
Godfrey, F. W., Fulham.
Golding, W. A., Durban.
Gregory, W. J. H., Liverpool.
Halfhide, F. W., Streatham.
Hall, G. L. D., Westminster.
Hamlyn, W. H., Harrow.
Harris, F. C., London.
Harris, L. Y., Nottingham.
Hill, G. W., Harrogate.
Howard, C. V., London.
Jones, R. D., Portmadoc.
Langrish-Toye, F. C., Wood Green.
Lawrie, W. G., Sydney.
Laws, H. H., Ealing.
Lawson, P. H., Chester.
Lewis, H. M., Wokingham.
Lewis, W. J., Ilford.
Loveday, W. T., Rugby.
Low, S., Aberdeen.
McCallum, M. S., Cullen.
Macfarlane, G. G., London.
Mackintosh, W., Hampstead.
Marr, E. T., London.
Martindale, C. J. F., Carlisle.
Mitchell, A. M. M., Forest Gate.
Moerdijk, G. L. P., Johannesburg.
Newrick, F. H., Sunderland.
Norburn, G. B., Smarden.
Paton, A. G., Partick.
Pearce, O. D., London.
Peters, T. J., Newcastle-on-Tyne.
Pite, R. W., Ealing.
Reid, H. H., Aberdeen.
Ross, W. A., Crouch End.
Rouse, E. H., Hankow.
Rudman, W., Chippenham.
Shattock, L. H., Wimbledon.
Spence, W. N., Ranelagh.
Stephens, P. E., Penzance.
Stevens, F. J., London.
Sunter, M. C., Manchester.
Synnot, R., Sydney.
Thomas, E. J., Hengoed.
Vergette, R. G., Swansea.
Watson, H., Otley.
Welsh, S., Forfar.
Wharf, H. F., Hull.
Wilson, P., Southport.
Winder, R. H., Oldham.

Honorary Fellow.

The Right Hon. The Earl of Crawford and Balcarres, F.S.A.

Honorary Associate.

Creswell, K. A. C., M.R.A.S., Inspector of Ancient Monuments, Palestine.

R.I.B.A. War Memorial.

The war memorial to be erected at the R.I.B.A. from the design, illustrated in THE ARCHITECTS' JOURNAL for November 24, of Mr. Trenwith L. Wills, A.R.I.B.A., is now in hand, and the subscription list will shortly be closed. Intending subscribers should therefore remit their contributions at the earliest possible date. Cheques and postal-orders should be made payable to the Secretary, R.I.B.A., and crossed Lloyd's Bank, St. James's Street Branch—War Memorial Fund. Members and Licentiates are reminded that the maximum contribution from any one person has been fixed at one guinea, and the Committee hope that the balance will be made up of a multiplicity of smaller sums from those who have not already subscribed.

THE UNITED STATES TREASURY ANNEXE, WASHINGTON, AS PROJECTED (COMPLETED PORTION COMPRISES RIGHT-HAND ONE-THIRD). CASS GILBERT, ARCHITECT.

The U.S. Treasury Annexe, Washington

During the war the United States Treasury Department, in common with all other Government Departments, had to have additional space to provide for its increased activities. It was necessary that a building for this purpose should be as near as possible to the Treasury Building, and it was accordingly located at the east side of Lafayette Square on the corner of Pennsylvania Avenue and Madison Place, opposite the north end of the Treasury Building and within a short distance of the White House. This site is in accordance with the general plan of development as proposed in the recommendations of the Park Commission of 1901 and as approved by the Fine Arts Commission of the present time, and is one of the most important sites in Washington.

Mr. Cass Gilbert was chosen as architect of the new Treasury Annexe by Mr. William G. McAdoo, Secretary of the Treasury. Work was started in April, 1918. The building was occupied in April, 1919. The total cost of the building and the tunnel connecting it to the Treasury building, including all expenses incident to the operation, was within the original appropriation made by Congress of $1,250,000.

In designing and planning the Treasury Annexe there were numerous requirements that had to be met. The main considerations were that the building should contain 100,000 square feet of floor area and should not be more than 85 ft. high on the street line.

The exterior of the building was designed to harmonise with the Treasury Building. It faces on Madison Place, and this street has a difference of grade of 9 ft. from Pennsylvania Avenue up to H Street. To provide a practical entrance on H Street if, as proposed, the building is later extended that far, the first floor was raised, and to provide an architectural setting for the building it is set back from the street with a granite terrace surrounding it on the street fronts.

To provide the 100,000 square feet of floor area required, it was necessary to have five floors. With the height of the order established by the Treasury Building, the fourth floor came about at the level of the frieze in the entablature. This made practically a parapet wall of the entablature, with a roof behind and the walls of the fourth and fifth floors were set back from the walls below.

As the building is chiefly for utilitarian purposes, the interior is of the simplest character. The main entrance hall and elevator lobby have marble floors and wainscot and ornamental iron elevator doors. The corridors in the upper floors have terrazzo floors with marble border and base, plaster cove cornice and wood wire mould. The rooms have cement floors covered with linoleum, wood base, wood doors and trim, and wood picture mould and furred ceilings. The toilet rooms and porters' closets have flint tile floors with tile wainscots, and marble window and door trim. The toilets have glass stall partitions with marble hanging-stiles. The service stairs have a simple railing of square metal bars with a wood hand-rail. The steps have marble treads with cast-iron risers.

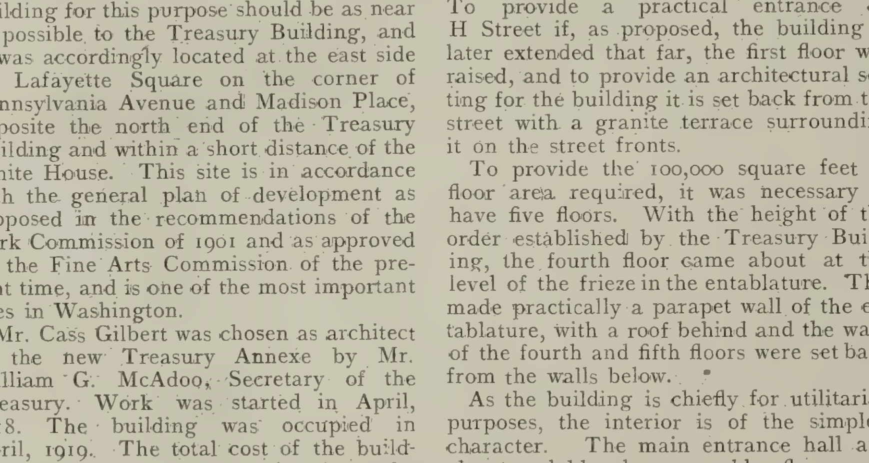
At the roof level are the elevator machinery room and a tank and fan room. Chemical laboratories extend up under the sloping roof, at the back of which is a small court which provides additional light and ventilation.

Reference has been made to the possible future extension of the building to H Street. This extension appears to be very much needed at the present time, as all of it could be used to provide space for Treasury business now being handled in rented quarters elsewhere. The very great expansion of Treasury business incident to the great bond issues, insurance, accounting, revenue, and other activities of the Department, require additional space. The exterior design of the future completed building was made with a view to such extension.

It was the purpose of the Department and of the architect to respond to the wishes of Congress that this building should be a thoroughly practical structure of very simple and inexpensive interior finish and yet of an exterior aspect suitable for its location.

To this end the exterior of the structure was designed in the spirit of the old, dignified official buildings in the Capitol city, and yet so handled as to provide the maximum of well-lighted space. There are, therefore, no deep porticoes, and where the frieze overhangs the third storey the lighting of this storey is amply supplemented by skylights, which make it the best-lighted space in the building. Casual observers have thought that the columns would necessarily darken the room, but used in this instance the light is in no case impaired and yet the impressive architectural value of the colonnade is obtained. The Treasury Annexe is, in fact, one of the best-lighted office buildings in the city, and has received the highest official approval both on account of this feature and because of its monumental character.

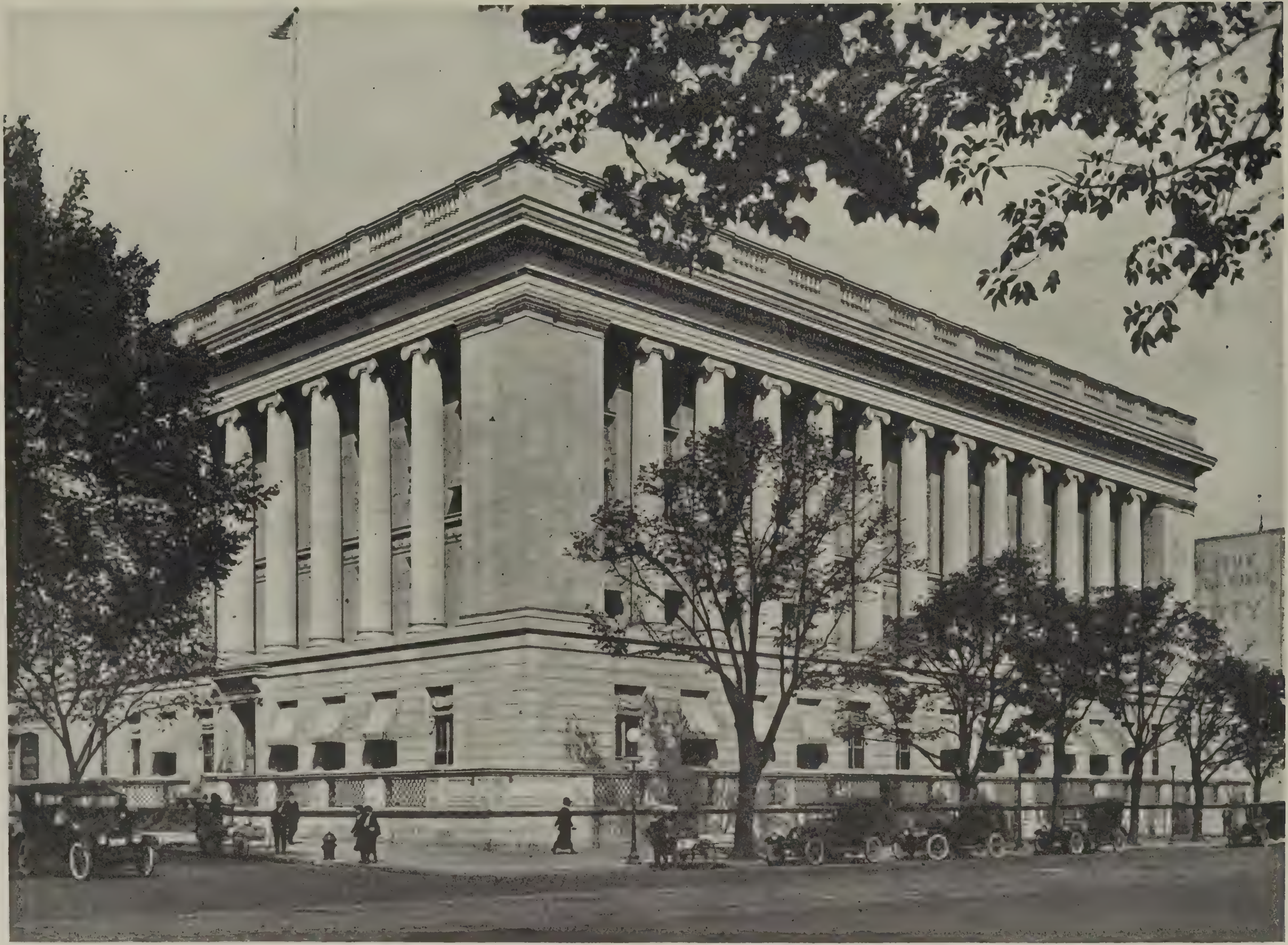
For the foregoing information we are indebted to the American "Architectural Review."



PLAN OF UNITED STATES TREASURY ANNEXE AS PROJECTED.

Modern American Architecture. 14.—United States Treasury Annexe, Washington, D.C.

Cass Gilbert, Architect



This is an example of a building relying on sheer mass for effect. The silhouette is restrained, as it should be, and the order is handled with knowledge. The official character of the building is unmistakable. The dimensions are approximately 125 feet by 170 feet. Bedford limestone, obtained from Bedford, Indiana, is employed for the whole exterior. Only one-third of the total scheme is represented by the above building, which has been erected at an approximate cost of $1,107,700.

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters.

Answers to enquiries are in all cases the work of experts; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur.

Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given.

Examination questions cannot be answered.

It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication.

Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Formulæ and Structural Mechanics.

"Ambit" (Glasgow) writes: "Please name the best book giving the various formulæ for working out the stresses on floors, roofs, beams, columns, etc., and the method of arriving at the sizes of the various members required. I should also like the book to contain the same information for concrete floors and foundations, and, if possible, for reinforced concrete."

—Our correspondent makes the not uncommon mistake of thinking that structures can be designed by the application of a string of formulæ. Formulæ are merely the condensed results of structural mechanics, and the designer who trusts to them blindly is apt to get into serious difficulties. Probably the books most suited to the purpose would be Rivington's "Building Construction" (Longmans) or Mitchell's "Advanced Building Construction" (Batsford), with the second R.I.B.A. report on reinforced concrete and the London County Council's regulations for reinforced concrete. Copies of these can be consulted in any good reference or technical library. P. J. W.

Wall Lining for Chill Rooms.

"Enquirer" writes: "We have been requested by some clients to recommend a cheap and efficient lining material for the walls of a chill room. They state that their experience is—that cement as used in the floors of the factory is disintegrated by the brine which they use for salting sides of bacon, etc. They also inform us that chloride of calcium will be used in the brine tanks standing in the chill room. As cork insulation has proved too expensive we propose to erect cavity walls—consisting of an outer wall of stone, a cavity of 2 in. packed with silicate cotton, and an inner wall of concrete blocks rendered on the inner face with cement and sand. We are afraid, however, that these walls might be attacked by the chemicals in the same way as the floors of the factory have suffered, and we shall be much obliged if you can give us expert information on this matter."

—A good method of constructing chill rooms which should suit our correspondent's requirements is to form the floor, walls, and ceiling with wood constructed of matchboarding secured to wood uprights and horizontals. The containing walls should be double-lined with waterproof paper, and the intervening cavity filled in with silicate cotton. The platform should be built up on a concrete floor. This method of construction permits the minimum amount of heat to penetrate into the chill room, is reasonable in cost compared with other methods, and the room would not be liable to injury by the chemicals as would the cement rendering. Care must be taken to ensure that the floor of the building in which the chill room is constructed is perfectly dry, otherwise the timber will be liable to rot and decay. W. S. B.

Damp Concrete Floor.

W. T. writes: "I have an old cottage, the floor of which, brick paving, has been recently taken up and laid in concrete. I find that this concrete, either from rising damp or condensation, always has water on it, sometimes pools. Could you tell me (1) the cause of this damp and (2) a reasonable and inexpensive remedy? The surrounding ground is rather damp and the ground floor is practically level with the outside ground. The walls, being old, have no damp course. I further notice that near the door, where there is plenty of air, there is no sign of damp on the concrete."

—(1) The cause of the dampness in the floor is due to there being no damp-proof course in the walls and because the surface of the concrete flooring is not raised sufficiently above the surrounding ground, which is itself very damp. The position of the concrete also prevents its drying quickly after being deposited, and this no doubt aggravates the matter. (2) If the site and position of the cottage render it practicable, a remedy would be to form a dry area round the outside about 2 ft. wide and 9 in. or 12 in. below the surface of the floor. One side and the bottom of the area should be formed with concrete, while the wall of the cottage would form the other side. The bottom of the area should be laid to falls and drained. Then the surface of the concrete floor should be floated about 1 in. thick with cement and sand to which has been added a damp-proofing mixture. If the damp still continues to rise in the walls the only remedy would be to insert a damp-proof course, which is an expensive matter.

W. S. B.

Painting a Radiator.

F. S. writes: "Can you give me a few hints on the painting of radiators"?

—An attractive finish may be obtained by painting the radiator with a white baking enamel on a ground of lithopone or zinc oxide. Care should, of course, be taken to clean the surface of the iron before applying the paint. A good bronze paint could also be used, but here again the medium must be heat-resisting. It is a good method to use a very light coat of some transparent colour as a glaze finish to the bronze. An ivory effect may be secured by painting the ground a very light yellow approaching white, then putting on Vandyke brown very thinly and wiping off part of the latter on the highest position of the ornament.

Composition Flooring.

"Malaya" writes: "I am obliged to carry out my buildings with Chinese labour and without the assistance of specialist firms. I would be grateful for any information on the method of proportioning, mixing, and laying composition flooring in which sawdust forms an important ingredient. References to articles on the subject which may have appeared in print or to any patent processes will be much appreciated."

—The following formula gives the proportions in bulk, dry, which should prove satisfactory in this climate:

Magnesite	1
Wood fibre	1½
Chalk	⅛
Asbestos	¼

This should be mixed with a 23 solution of chloride of magnesium, measured on a Bome hydrometer to the consistency of a thick paste in the proportion of about equal parts of the solution and the formula mixture. About 10 per cent. of colour should be added if it is required to tint the floor, and this should be an earth colour, red for preference, as this does not injure the mixture and gives the best results.

The proportions of the magnesite and wood fibre must be varied according to the climate, and "Malaya" would be well advised to make some experiments with the mixture and vary the proportions of these two items before laying the flooring in order to ascertain the mixture most suitable to the climate of the locality where it is to be used. The proportion of the magnesite and wood should still bear the same relation to the other two ingredients in the formula—that is, if the bulk of the magnesite is increased the wood fibre should be diminished accordingly, or vice-versa. If sawdust is used it is advisable for it to be very fine hardwood dust with some wood flour.

The composition floor can be laid either on concrete or boarding from ½ in. to ⅞ in. in thickness; if on the first, the concrete should be brought to a fairly level surface, but not smooth; if on the second, large-headed nails should be driven into the floor, projecting about ¼ in. from the surface at about 12 in. centres to form a key.

The following should be laid in one thickness in sections compressed and floated to an even surface in a similar manner to a cement floated floor, and if the whole surface cannot be finished in one operation the edges should be kept damp so as to connect up with the new at the junction.

Patterns for borders, etc., can be formed by placing wood fillets of the requisite size and shape in the floor when laying the general colour, and filling in the cavity formed on their removal with the different colour. The floor should be allowed ample time to dry, this generally taking from three to seven days, according to the atmospheric conditions.

There are numerous patent floors of this description on the market, such as "Doloment," The British Doloment Co., 167, Strand; "The Willesden Jointless Floor," 59, Sellous Avenue, Harlesden; "Linolith," The Brentford Construction Co., 79, High Street, Brentford, to mention only three. W. S. B.

Professor F. C. Lea on Reinforced Concrete

The fifth general meeting of the session was held at the Birmingham Architectural Association's rooms, Royal Society of Artists Buildings, New Street, Birmingham, on December 31, 1920. The president, Mr. H. T. Buckland, F.R.I.B.A., took the chair, and thirty-six members were present.

Professor F. C. Lea, D.Sc., read a paper entitled "Reinforced Concrete," in the course of which he threw out some valuable hints to architects regarding the employment of reinforced concrete as a building material.

The combination of artificial and natural stone with metal reinforcements, he said, was in some measure practised by the Romans, but there is no evidence that there was an appreciation of the real significance of the use of metals in conjunction with concrete until quite recent times. During the last century there has come into being a science of materials and structures; and a body of theory, based upon fundamental hypotheses which are verified by experiment, has been developed which makes it possible not only to be more courageous in the use of materials but also to use new materials, such as steel and reinforced concrete, economically, and with the greatest confidence, for the construction of buildings, bridges, and other structures which would hardly have been otherwise possible.

The steel used in reinforced concrete, within the ranges of stress to which it is subjected, agrees with the fundamental hypotheses of elasticity almost perfectly, but the concrete does so only with a certain degree of approximation. Nevertheless, experiments that have been carried out in many countries show that theories are sufficiently reliable when care is taken to use proper aggregates for the concrete, and when the concrete is made under strict supervision. The real difficulty very frequently is not in anticipating what the distribution of stress in any part of a structure will be when the loads to which it will be subjected are known, but rather what those external loads are likely to be and whether the human factor in the making of the concrete had been such as to make it untrustworthy.*

The latter condition is a real possibility unless those who are responsible for the manufacture and supervision not only take the greatest care but are also sufficiently trained technically to appreciate those fundamental principles that in no circumstances must be violated.

The first necessity for good concrete is a high-class cement. Fortunately in this country there are a number of firms who are able to supply this, and with a reasonable amount of supervision there should be very little risk of unsatisfactory concrete from this source. If all cement is purchased under the terms of the British Standard Specification, and frequent tests are taken, success can be assured.

It is often asked whether steel is prevented from rusting by concrete. If properly embedded in concrete that is not porous there seems no doubt that it is perfectly protected from rust.

One serious word of warning is, however, required with regard to reinforced concrete for the construction of so-called fire-proof buildings. In the sense that reinforced concrete cannot possibly burn, such buildings are fireproof, and it is also true that when fires rage in such buildings they are not likely to collapse so completely as stone or brick buildings, or even as readily as steel frame buildings; but as at present constructed they are by no means fireproof. Researches subsidised by the Department of Scientific and Industrial Research are being carried out on this important question. The results achieved have been largely negative, rather than positive, and indicate that no structures, as at present constructed, are likely to withstand, without very serious damage, the effect of an intense fire. The fundamental experiments referred to are throwing some light upon the conditions that will have to be met if successful fireproof buildings are to be made, but much more research is required.

We are living in an age when labour and material are expensive, and one of the problems of the day is how to maintain economy of expenditure in buildings, not only with the highest degree of suitability to the particular purpose for which they are to be used, but also to obtain the best and most pleasing architectural effects. Reinforced concrete can no doubt be used to satisfy these aims, and architects working with those who understand the constructive and scientific possibilities of this material may use it to produce worthy structures.

The vote of thanks, which was proposed by Mr. A. Harrison, F.R.I.B.A., and seconded by Mr. W. W. Wheston, was carried with acclamation.

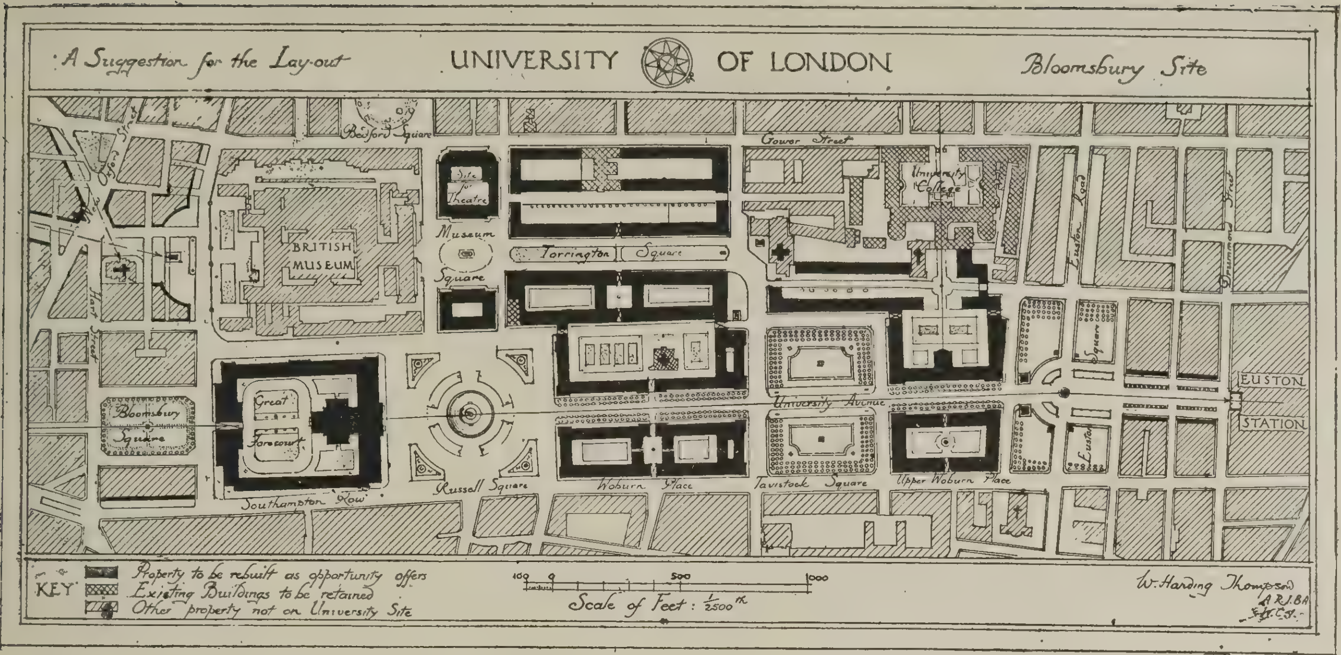
A. & S.A.P.U. Annual Report

Although the main object of the Central Executive Committee of the Architects' and Surveyors' Assistants' Professional Union during the period covered by their report—from March 4, 1919, to May 31, 1920—has been to build up the Union rather than to accomplish needful reforms, material help has been rendered to certain classes of assistants and to individual cases. It has been generally felt, however, that the attainment of the general principle of minimum economic wages will benefit individual cases more than individual interference in their behalf. To that end the executive has taken the fullest possible opportunity offered by the already existing Welfare Committee.

Numerous protests have been made to Government Departments, municipal bodies, and private individuals. Some of these have achieved a partial success, especially where public opinion could be brought to bear on the matter, but the executive state "that the Union was not yet strong enough numerically or financially to bring them to a really successful issue."

The report states that the Union owes its inception almost directly to the assistants' side of the Architects' Assistants' Welfare Committee, gives a record of the various London and Provincial meetings, etc., reports of which have appeared from time

PROFESSOR F. C. LEA, D.Sc.



to time in THE ARCHITECTS' JOURNAL, and states that the membership of the Union, including probationary members, has been brought up to approximately 1,200.

The Executive state that the results of the actual business transacted by the National Convention of London and Provincial delegates of the Union, held at Sheffield during Whitsuntide, will not be immediately apparent. It is, however, the opinion of the delegates themselves and of the Executive that this first convention will prove to be a landmark of the first importance in the history of the Union.

During the period under review employment has been good. The Union has established a register of members needing employment, and is to be congratulated in having found good jobs for the majority of them.

A design club has been instituted for the benefit of those provincial students and assistants for whom a higher school of architectural design is not accessible. The Executive state that if this is well supported it may become a potential factor in raising the standard of architecture in the more remote parts of the country, and the experiment may be extended to other subjects. Messrs. Robert Atkinson, F.R.I.B.A., Louis Blanc, Lic.R.I.B.A., L. H. Bucknell, A.R.I.B.A., R. A. Duncan, A.R.I.B.A., W. H. Hamlyn, A. J. Sparrow, A.R.I.B.A., M.S.A., with Messrs. A. W. Mather, M.S.A., and C. McLachlan, A.R.I.B.A., as structural and practical advisers, and Mr. J. D. M. Harvey, B.A., as honorary secretary, have been appointed as a Committee of Visitors.

Public meetings have been held in the following provincial centres during the year, the following gentlemen speaking: Norwich, Mr. C. McLachlan, Mr. Cameron; Liverpool, Messrs. Grieve, Alexander, Overy, and Auger, president of Merseyside Branch of A.E.S.D.; Messrs. Alexander and T. T. Rees, president of the Liverpool Architectural Society; Manchester, Mr. Paul Ogden, F.R.I.B.A.; Glasgow, Ayr, and Sheffield, Mr. Taylor and a representative of the Society of Technical Engineers; Newcastle, Messrs. J. B. Lawson, Scott, and Fairbairn; Southampton, Mr. R. A. Duncan and representatives of the A.E.S.D.; Cardiff, Mr. R. A. Duncan.

The New London University Buildings

Mr. W. Harding Thompson, A.R.I.B.A., Associate Member of the Town Planning Institute, and a post-graduate student of the School of Town Planning of the University of London, has prepared an interesting plan, reproduced below by the courtesy of the Journal of the London Society, showing a suggested lay-out of the Bloomsbury site, upon which the new group of buildings for the University of London are to be erected. The site accepted from the Government by the University consists of eleven and a half acres of land, including roads, and includes blocks of houses facing Bedford Place, Russell Square, Torrington Square, etc., whose unexpired leases vary from five to thirty or more years. Funds for the new buildings are as yet unprovided, and apart from such grants as may be made from Government sources, the University depends for the erection of the halls and colleges upon the assistance of public bodies and private donations.

Mr. Thompson states, in our contemporary, that the principal features of his proposed lay-out are as follows:

(*a*) A great monumental approach road is shown from Euston Station (one of London's northern gateways) to Oxford Street and Kingsway, passing between fine blocks of University Collegiate buildings and two typical London squares, until it reaches its climax in the great Assembly Hall block and headquarters of the University of London.

Northern visitors to the capital would thus receive their first impression of London by an approach worthy of the City's traditions, instead of the zig-zag progression now required through streets of boarding houses and shops.

(*b*) By the construction of the proposed University Avenue, the traffic congestion between Kingsway and Euston Road, and between Shaftesbury Avenue and Euston Road, would be considerably relieved. Russell Square, when remodelled as an open public space, would form the junction of these two streams of traffic.

(*c*) As a foil to the busy thoroughfare thus created, the University buildings are grouped in such a manner as to give the necessary amount of quiet and secluded courtyards and collegiate buildings for the various schools and residential quarters. These buildings would thus have the traditional character of colleges in the older Universities. They would be dominated by the Assembly Hall and central building, which would, moreover, form an adequate termination to the great approach and a fit companion for the British Museum.

(*d*) It is suggested that the island site at the junction of Montague Place and Gower Street would be a suitable place for a National Theatre facing the square on the north side of the British Museum, and balanced by another building of equal importance between the Museum Square and Russell Square.

(*e*) The plan shows part of Gordon Square built on, but to compensate for this, the property between Gordon Square and Tavistock Square would be demolished so as to give an equal-sized public garden on each side of the University Avenue.

(*f*) The axis of the proposed University Avenue is directed so as to terminate at its northern end on the centre of Euston Station, which at some future time may have a new façade. Until such alteration takes place, the axis of the avenue would be broken at its junction with the Euston Road, and for the present terminate on the existing Propylæa, or gateway, to Euston Station.

The question of improving the approach to Euston, and connecting Shaftesbury Avenue with Russell Square, comes outside the administration of the University authorities, but in considering any scheme put forward by the University for their area, the whole question should be reviewed with the object of improving the plan of Bloomsbury in particular and of London in general. Any scheme which falls short of this object will mean an opportunity lost in improving our approaches from the northern railway terminals.

The problem of directly connecting these terminal stations with central London will have to be faced in the near future; it is considered that the rebuilding of the University area would provide a magnificent opportunity which it would be folly to lose.

Correspondence

The Architects' Benevolent Society

To the Editors of THE ARCHITECTS' JOURNAL.

Sirs,—During the war the Council of the Architects' Benevolent Society were able to meet the many claims made upon the Society by acting in co-operation with the Architects' War Committee and other temporary organisations. This assistance has now ceased, and the Society has to depend upon its inadequate resources and the generosity of the architectural profession.

During the last few years subscriptions have been falling off. During last year, for instance, the annual subscriptions amount to less than £450, and these have been received from only 280 out of the many thousands of architects practising in the United Kingdom. At least five times this amount is required annually if the Council of the Society are successfully to carry on this very important work. You would be shocked at the really tragic cases of hardship which come before the Council at nearly every meeting, many of which can only be inadequately dealt with owing to lack of funds.

The increased cost of living has doubled the hardships of pensioners and deserving applicants. It has also caused an unprecedented drain on our scanty funds.

We therefore desire to remind you that the Society, which has been in existence for seventy years, is the only organisation in our profession established solely for the object of affording much-needed assistance to those in necessitous circumstances who have been engaged as architects or architects' assistants, and, where necessary, to their widows and children.

We require at least 1,000 additional annual subscriptions of £1 1s. each. Subscriptions will be gratefully acknowledged officially as well as in periodic lists in the Press, and we are confident that it is only necessary to call your attention to the needs of this Society to find a ready response.—We are, yours very truly,

JOHN W. SIMPSON,
President of the Royal Institute of British Architects.
President of the Architects' Benevolent Society.

CHARLES T. RUTHEN,
President of the Society of Architects.

G. GILBERT SCOTT,
President of the Architectural Association.

A Rickards Monument

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—On page 14 of your issue for January 5 you illustrate a very beautiful design for a monument. Its fine proportion, graceful detail, and nobility of conception fill the observer with instant admiration, which, however, is accompanied by a pang of remorse that so fine an artist had such scant opportunity to develop on this side his rare and unquestionable genius. This memorial suggests most potently that E. A. Rickards had it in him to become the foremost sculptor of his day. It certainly ought to be erected in some public place. It would serve admirably as a war memorial, and if the design were rightly interpreted by some first-class sculptor, would be second to none in beauty and dignity. V. J.

London, S.E.

"The Art of E. A. Rickards"

Below are two further selections from the large number of letters on "The Art of E. A. Rickards" that have reached the publishers from authoritative sources.

It is with great pleasure that I send you my opinion on the book of the late Mr. Rickards' work. It is difficult to say all one feels in this matter, but I am extremely glad to be able to possess a memorial of his work which is so satisfying and has been so well carried out. I think everyone concerned, namely, the originator of the idea, the writers, and the publishers, are to be congratulated on producing this fitting memorial to one of our greatest architects. . . . It is now one of the most treasured architectural volumes in my library.

PATRICK ABERCROMBIE.

I should like to say how very glad I am to possess such a record of the work of this consummate architect.

The variety of work included in the volume, from the brilliant spontaneous sketch expression of a design idea, to the more formally stated and finished drawing, makes one feel brought into actual contact with the personality of this artist in constructional form.

Rickards' death was a great loss to architecture, and there must be many who, like myself, will derive much pleasure and benefit from the possession of this excellently produced volume.

NORMAN CULLEY.

Royal Sanitary Institute

The thirty-second congress and health exhibition of the Royal Sanitary Institute is to be held under the presidency of the Right Hon. the Earl of Radnor, at Folkestone, from June 20 to 25. The arrangements for the meeting include general addresses and lectures, sectional meetings for the reading and discussion of papers, and conference of sanitary officers, engineers and surveyors, etc. These various meetings give delegates the opportunity of meeting the leading sanitarians from various parts of the country, of discussing the most recent advances in sanitary science and preventive measures, of seeing recent sanitary appliances collected together, and noting which are approved after examination by a committee of experts; also of seeing, under competent guidance, the sanitary administration and practice of the centre (and surrounding districts) in which the congress is held.

The Ministry of Health have intimated "that the Ministry will be prepared to entertain applications from local sanitary authorities, whose accounts are subject to Government audit, for sanction to the payment of reasonable expenses (including the entrance fees) of delegates attending the proposed congress. It is considered that the number of delegates sent by each sanitary authority should not exceed two, and that one of them should, as a rule, be the medical officer of health."

Law Report

Builder's Claim

Simpson v. Staines.

Official Referees' Court. Before Mr. G. A. Scott.

This was a dilapidation claim amounting to £254 in respect of dilapidations of premises, 154 and 156, Great Titchfield Street, in which plaintiff was represented by Mr. H. A. Robertson, and the defendant by Mr. Fortune.

The action, said Mr. Robertson, was brought by Mr. Simpson, one of the executors of the late Mr. Robert Perkins, who had held the premises under a lease dated February, 1877, for a period of forty-eight years. Part of the premises comprised in the original lease was subleased to the defendant. The premises were used by the late Mr. Perkins for the purposes of his business as a builder, and when he died his son carried on the business until 1905, when he granted an under-lease to the defendant, Mr. Arthur Joseph Staines, at a rental of £180 a year for the first six and a half years, and £200 a year afterwards. The lease would expire on March 25, 1924. The covenants to repair were of the usual character, including a provision for entry after notice had been given to repair, and notice had been given in accordance with that covenant. Subsequently, Mr. Staines converted himself into a company, "A. J. Staines and Co., Ltd.," and with that company an agreement was made under which certain offices, forming part of the plaintiff's property, were let, all the provisions of the lease being incorporated in that agreement. So far as the offices were concerned, the company alone was liable, but for the other part Mr. Staines personally and the company were jointly liable.

Mr. Fortune (for the defendant): We say we have done everything, and there was nothing in the schedule of dilapidations which we have been asked to do which we have not done.

The Official Referee said that this was an action brought during the term of the lease, and was, therefore, really one for damages to the reversion.

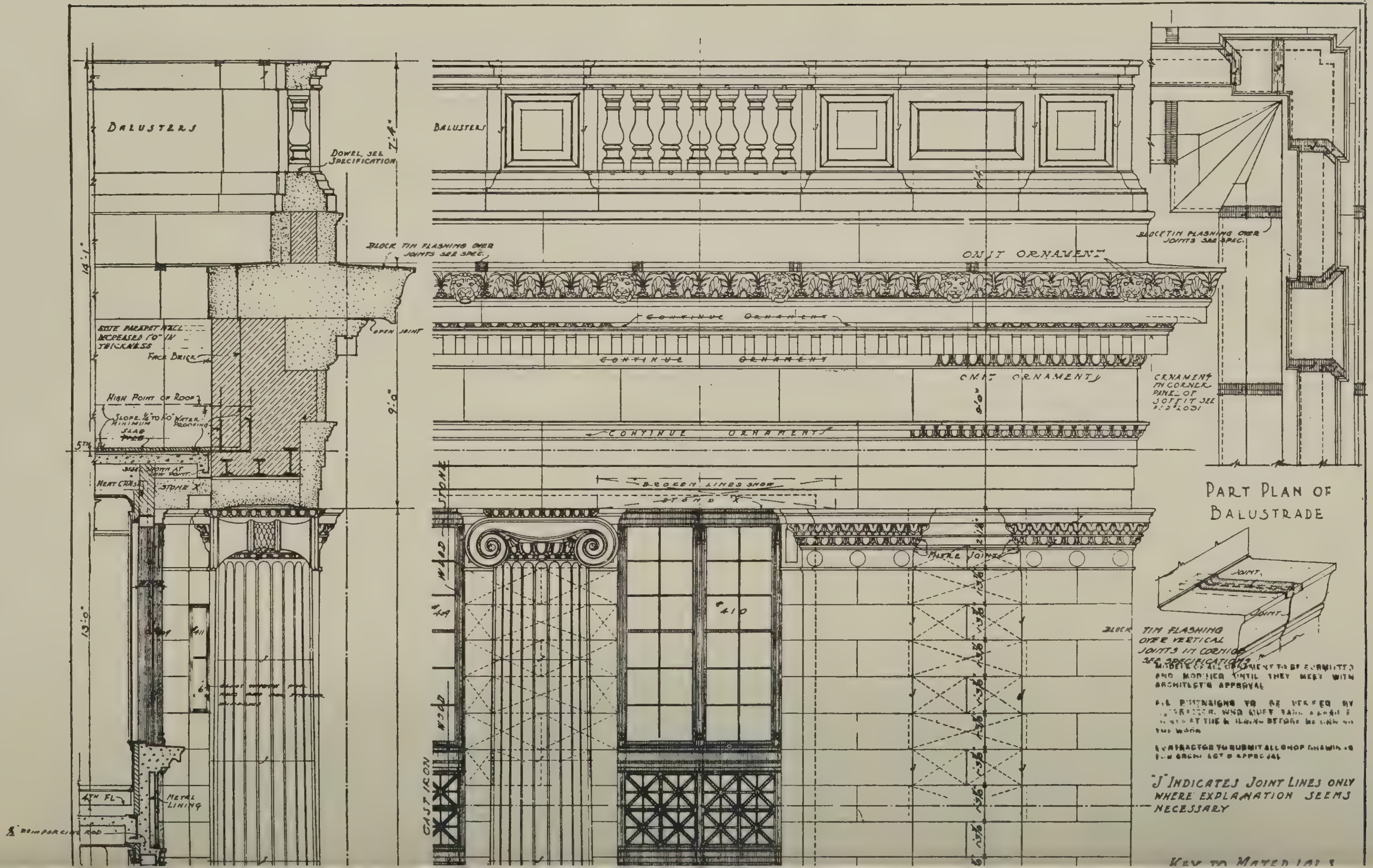
Mr. Robertson, continuing, said that in the early part of 1918 the defendant was intending to vacate the premises, when the question arose as to the state of repair in which they were, and at his request a surveyor was appointed to go over them. Messrs. Holmes and Co., surveyed the premises, and Mr. Constantine prepared a schedule of dilapidations, which was served on May 17, and returned to the plaintiff with the defendant's observations as to each item. Some of the work was done, and some was disputed. Mr. Hughes was afterwards called in, when the schedule of repairs was amended.

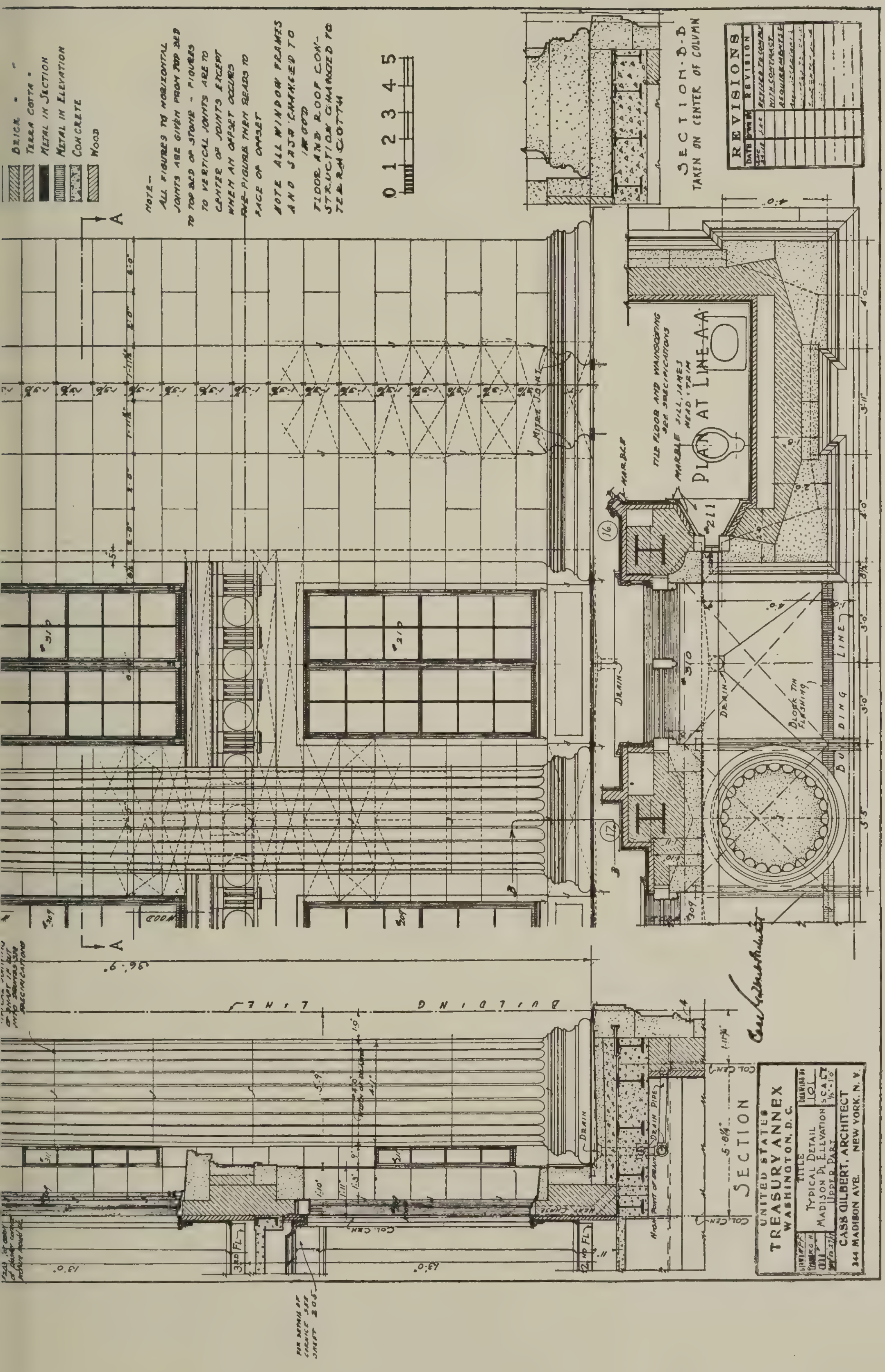
Mr. Fortune said that in the case of removal of machinery it might be reasonable at the end of the term to call upon the tenant to fill up the holes caused by the removal, but during the continuance of the tenancy there was no obligation to do it.

The Official Referee, in giving judgment, said that what he had to do was to consider what damage had been done to the reversion by neglect of the defendant to repair, and in that regard he had to consider what was the subject-matter of the covenant to repair, and the first thing was to ascertain the liability under the general covenant. As he understood the law, the

Architects' Working Drawings. 24.—United States Treasury Annexe, Washington, D.C.: Typical Detail of Façade

Cass Gilbert, Architect


BALUSTERS
DOWEL, SEE SPECIFICATION
7'-4"
14'-1"
BLOCK TIN FLASHING OVER JOINTS SEE SPEC.
OPEN JOINT
STATE PARAPET WALL DECREASED TO 1'-4" THICKNESS
FACE BRICK
HIGH POINT OF ROOF
SLOPE ¼" TO 1'-0" MINIMUM
WATER PROOFING
SLAB
5TH
HEAT CHASE
STONE X
9'-0"
13'-0"
4TH FL.
METAL LINING
REINFORCING ROD
BALUSTERS
UNIT ORNAMENT
CONTINUE ORNAMENT
CONTINUE ORNAMENT
UNIT ORNAMENT
CONTINUE ORNAMENT
ORNAMENT IN CORNER PANEL OF SOFFIT SEE F.S.D. 2051
BROKEN LINES SHOW STONE X
STONE
HEAD
CAST IRON
MITRE JOINT
BLOCK TIN FLASHING OVER VERTICAL JOINTS IN CORNICE SEE SPECIFICATIONS
PART PLAN OF BALUSTRADE
JOINT
JOINT
"J" INDICATES JOINT LINES ONLY WHERE EXPLANATION SEEMS NECESSARY


BRICK
TERRA COTTA
METAL IN SECTION
METAL IN ELEVATION
CONCRETE
WOOD
NOTE – ALL FIGURES TO HORIZONTAL JOINTS ARE GIVEN FROM TOP BED TO TOP BED OF STONE – FIGURES TO VERTICAL JOINTS ARE TO CENTER OF JOINTS EXCEPT WHEN AN OFFSET OCCURS THE FIGURE THEN READS TO FACE OF OFFSET
NOTE ALL WINDOW FRAMES AND SASH CHANGED TO WOOD
FLOOR AND ROOF CONSTRUCTION CHANGED TO TERRA COTTA
0 1 2 3 4 5
SECTION D-D
TAKEN ON CENTER OF COLUMN
REVISIONS
DATE
REVISION
TILE FLOOR AND WAINSCOTING SEE SPECIFICATIONS
MARBLE SILL, JAMBS, HEAD, TRIM
MARBLE
PLAN AT LINE A-A
MITRE JOINT
DRAIN
BLOCK TIN FLASHING
BUILDING LINE
A
A
SECTION
3RD FL.
2ND FL.
COL. CEN.
DRAIN PIPE
UNITED STATES
TREASURY ANNEX
WASHINGTON, D.C.
TITLE
TYPICAL DETAIL
MADISON PL. ELEVATION
UPPER PART
SCALE 3/4"=1'0"
DRAWING No 101
CASS GILBERT, ARCHITECT
244 MADISON AVE. NEW YORK, N.Y.

Some notes on this great new building are given on page 38 of this issue. Mr. Cass Gilbert has handled his elevations with great restraint, a huge Ionic order embracing three floors being used with effect. Where the entablature overhangs the third storey the lighting is supplemented by skylights.

Court had to see how the covenant applied to the subject-matter of the demise in that particular case. It was untrue to say that the condition of the premises in 1905 was irrelevant to the construction of the covenant. Until he took notice of the general surroundings he could not arrive at the amount of repairs necessary. That must depend upon the condition of the premises, the age of the premises, and the surroundings of the premises. He found, as a fact, that in 1905 Mr. Staines entered into possession; the premises, which were very old, were in a reasonable condition of repair for premises of that class, and if he accepted the evidence of Mr. Staines, which he did, they were in a better state of repair now than they were then. The evidence of the surveyors, Mr. Hughes and Mr. Constantine, had gone into sufficient detail to enable the case to be fought on the broad lines as to how the premises should be treated at the end of the term. Some of the repairs claimed as necessary did not affect in any way the upholding of the premises. The general conclusion to which he came was that the defendant had treated the premises as a reasonable tenant. From time to time he had carried out such repairs as were necessary to keep them in a fit and proper condition. He (the Referee) found that the defendant had spent the sum of £50 7s. 1d. on repairs which Mr. Hughes had put at £64 odd as being necessary to comply with the covenant. In addition, in order to safeguard himself, the defendant had paid into Court a sum of £50, and he found that that was ample, and more than ample, coupled with the work that had been done, to meet any demand of the plaintiff. The judgment would be for the £50 paid into Court, which would be paid out to the plaintiff, who would be entitled to his costs down to the time of payment in, from which time the defendant would have his costs.

Unemployment: A Suggested Remedy

A group of employers and representatives of labour have for some months past been meeting in informal discussions to consider some of the more important problems pressing upon industry during this present period of reconstruction. They soon came to the conclusion that by far the most urgent and serious of these problems was that of unemployment. It was considered to be the basic problem. While recognising the obvious truth that the only satisfactory cure for unemployment is employment, and that every effort should be made to effect a cure on these lines, they agreed that there may always be a margin of workers which industry cannot absorb, and that it is absolutely essential to deal with these on lines far more adequate than those provided by the National Unemployment Insurance Act, 1920, with its 15s. benefit.

With this end in view they have, with the aid of statistical and economic experts, drafted a scheme for Unemployment Insurance. It is felt that it could be grafted on to the existing Act, and applied at once.

The draft scheme has just been submitted for public discussion. It is submitted anonymously in order that it may be discussed on its merits without the advantage or disadvantage of names, though it may be added that the employers represented in the group are directors of concerns employing tens of thousands of workers and many millions of capital.

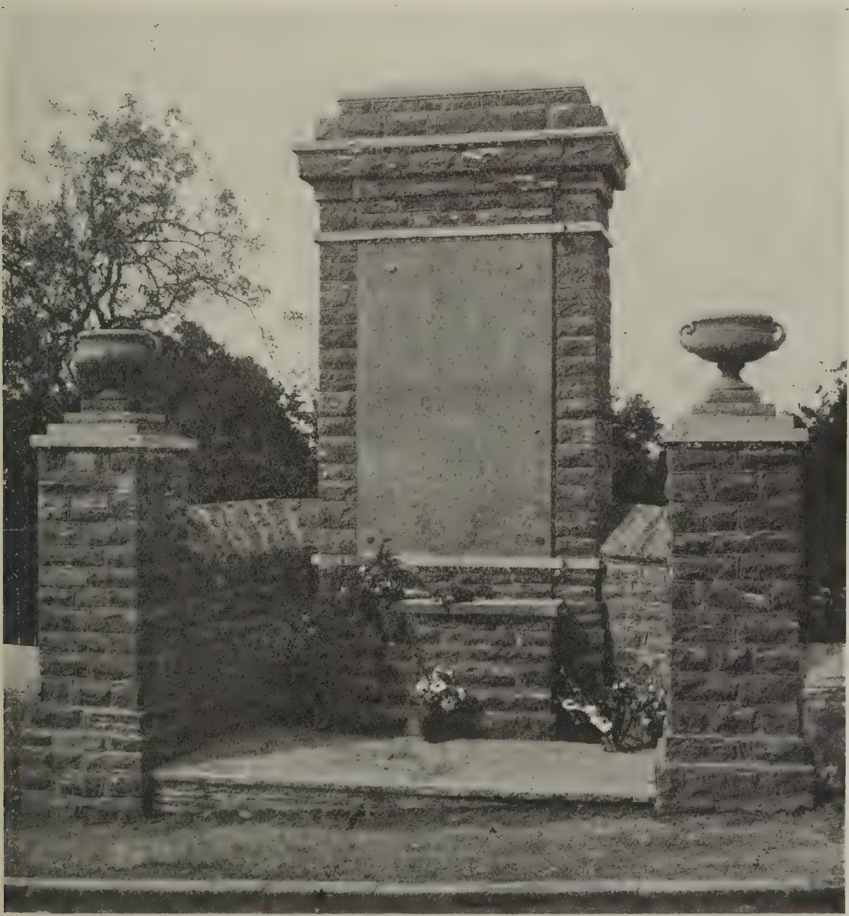
The chief points in the proposals are as follows:

(1) Unemployment benefit takes the form, not of a fixed amount, but of a proportion of the worker's regular wage, adjusted to the number of dependents.

(2) Whilst the worker's and the State contributions are fixed, the employer's contribution varies, being made to bear the residuary cost of unemployment in his industry.

The proposal is supplementary to the Unemployment Insurance Act (1920). That, and previous Acts, will have established the whole administrative machinery needed to work the proposal, which could thus be grafted on to the existing system.

Essentially the proposal is one to compel industry to create a wages equalisation fund, and to give employers an incentive to eliminate every removable cause of unemployment. It is suggested that not only would such a policy be worth almost any cost in the suffering which it would alleviate, but that it would prove in practice to be just as sound a policy financially as is a dividends equalisation fund.



ROADSIDE MEMORIAL IN THE VILLAGE OF PORTBURY, SOMERSET.
C. F. W. DENING, F.R.I.B.A., R.W.A., ARCHITECT.

This memorial is of rough red stonework jointed with "purple madder" mortar, the names being incised upon a slate slab.

Book Notice

"*The Architectural Review.*"

"There may be views equalling that of Richmond Hill, but it is difficult to imagine there can be any which excel it," comments Mr. Nathaniel Lloyd, in this month's "Architectural Review."

We have debated this point with friends many times, contending that the view of all London from the northern heights of Hampstead and Highgate excelled it on the point of interest, though on the point of sheer beauty it might be hard to decide. Mr. Lloyd's opinion is the opening sentence of an article on "No. 3, The Terrace, Richmond Hill," supposed to have been built for Christopher Blanchard, a playing-card maker in the reign of King George the Third. Its designing has been variously attributed to Chambers and one of the brothers Adam. From the elevation—of which a fine full plate photograph is given—we should say Chambers rather than Adam: for Adam some of the lines are a little too heavy.

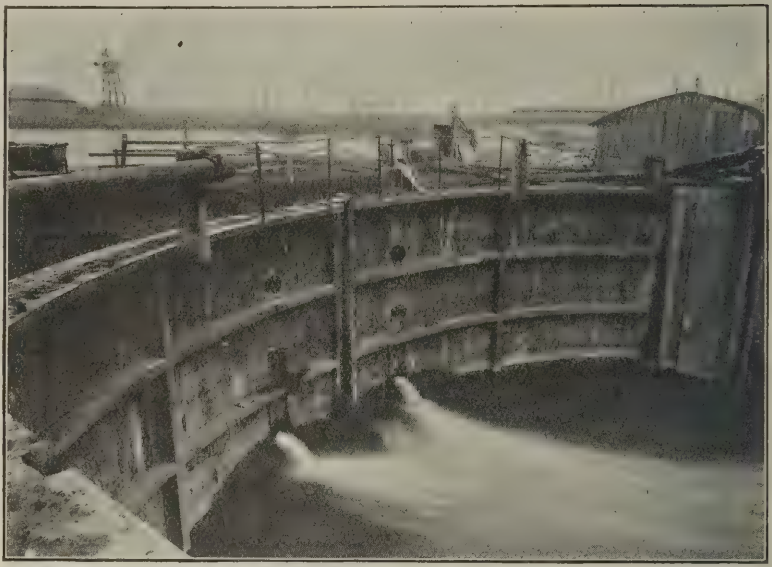
"New Acquisitions at the Victoria and Albert Museum" are noticed by Mr. Oliver Brackett, specimens of furniture acquired during 1919 and 1920 being shown. Of these, a solid panelled-oak armchair, bearing the date 1574, is the oldest piece. The space under the seat forms a cupboard. Such a convenience has probably been eliminated from chairs of a later date on account of cumbersomeness.

Some beautiful wall-papers are shown in an article by Miss M. Jourdain upon "English Wallpapers." One interesting design mentioned by the writer is that at Eltham Lodge, Kent, where the walls of the staircase hall are treated with an architectural scheme in paper-hangings, with circular-headed arcades and Corinthian columns supporting a cornice. Within these arcades are landscapes with figures representing scenes from some romance.

Construction. 15.—Reinforced Concrete Lock Gates at Tilbury Docks*

By H. J. DEANE, B.E., M.Inst.C.E., M.Inst.M.E.

THE exigencies of the war necessitated the introduction of reinforced concrete in the construction of ships, barges, and other vessels, owing to shortage of the more usual materials such as steel, iron, and wood. The building of a certain number of these barges on Admiralty behalf was undertaken by the firm of Christiani and Nielsen, and a suitable site was let to them for this purpose by the Port of London Authority at their docks at Tilbury, Essex. The great advantage of this site was the ready access to the river, and the low marsh level on which the barges could be built obviated the formation of expensive slipways or dry docks. The area chosen is situated immediately behind the chalk-pitched bank to the north of the Tilbury Dock extension. After forming an embankment round the remaining sides for the protection of the marsh lands against flooding, all that was necessary to enable the barges to be floated out into the Tilbury Dock was a cut or passage of sufficient width and depth through the pitched bank.

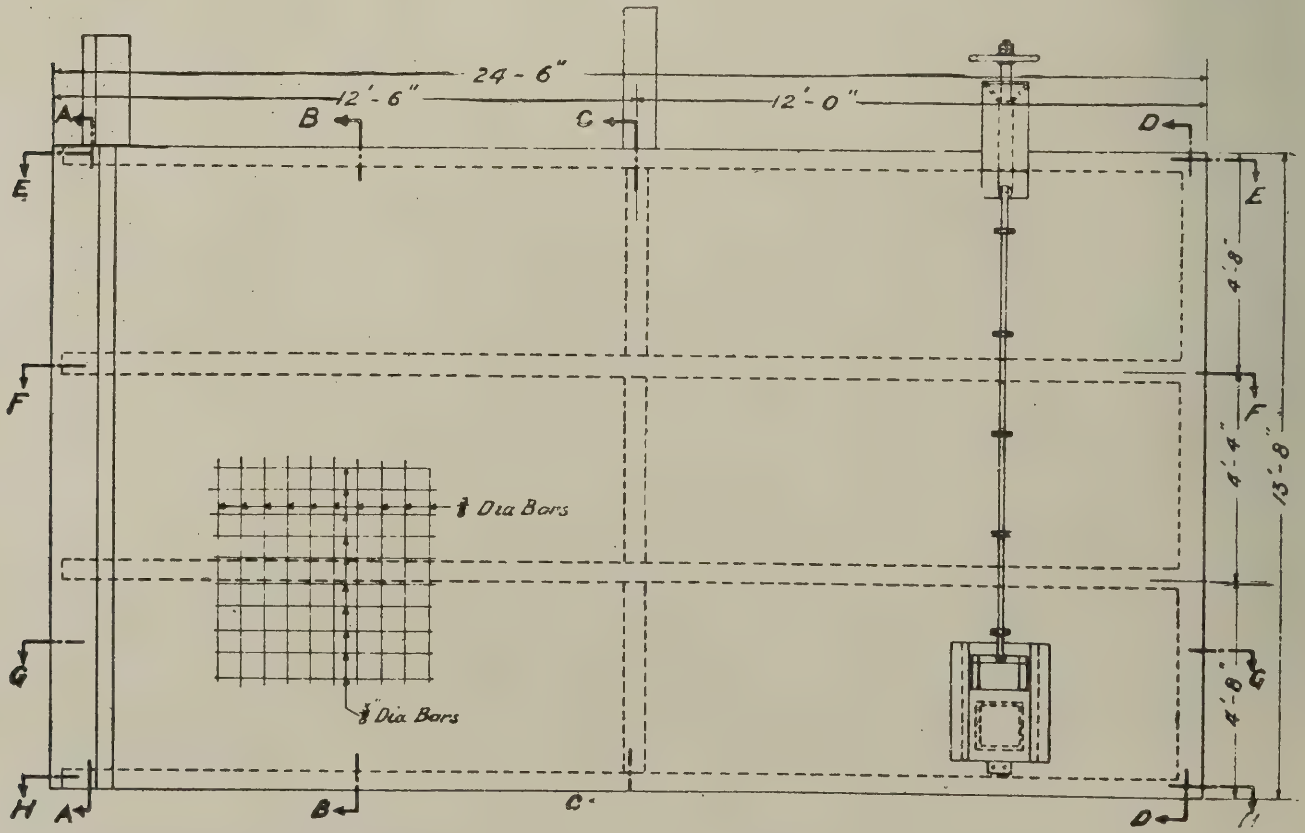


THE GATES COMPLETED.

The closing of this passage against the waters of the dock was the subject of careful consideration, and the contractors eventually decided, with the permission of the Port Authority, to build the necessary lock gates of reinforced concrete. The entrance passage or channel from the Dock extension is 40 ft. wide in the clear. The level of the top of the sill at the entrance is 3.13 ft. above ordnance datum. The level of water in Tilbury Docks at spring tides is approximately Trinity high water, or 12.5 ft. above ordnance datum, so that at this level there is a depth of water of 9.37 ft. in the entrance to the barge dock. The level of top of coping is 17 ft. above ordnance, the distance from coping to sill being 13.87 ft.

The sill is segmental in plan, the radius being 26 ft. 4¾ in. The curved outer faces of the gates are flush with the outer face of the sill, and the leaves of the gates are 13 ft. 8 in. deep from top to bottom, there being a space of 2 in. between the bottom of the gates and the top of the sill.

Each leaf consists of a slab 3½ in. thick,



ELEVATION OF REINFORCED CONCRETE LOCK GATES, TILBURY DOCKS, FOR THE PORT OF LONDON AUTHORITY.

---

* Extracts from a paper read before the Concrete Institute.

Current Architecture. 54.—View in Pacific Steam Navigation Company's Offices, Liverpool

Willink and Thicknesse, FF.R.I.B.A., Architects

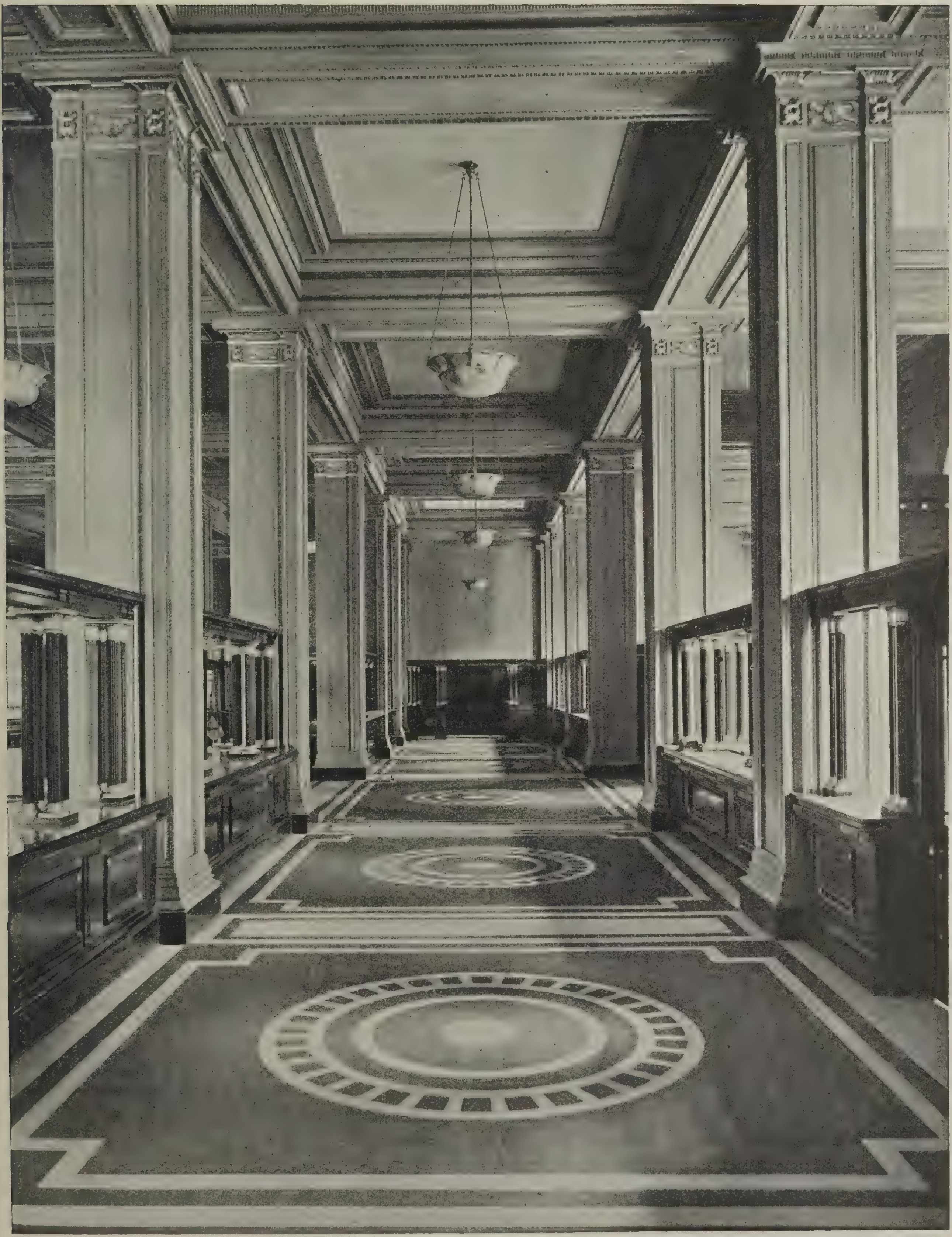
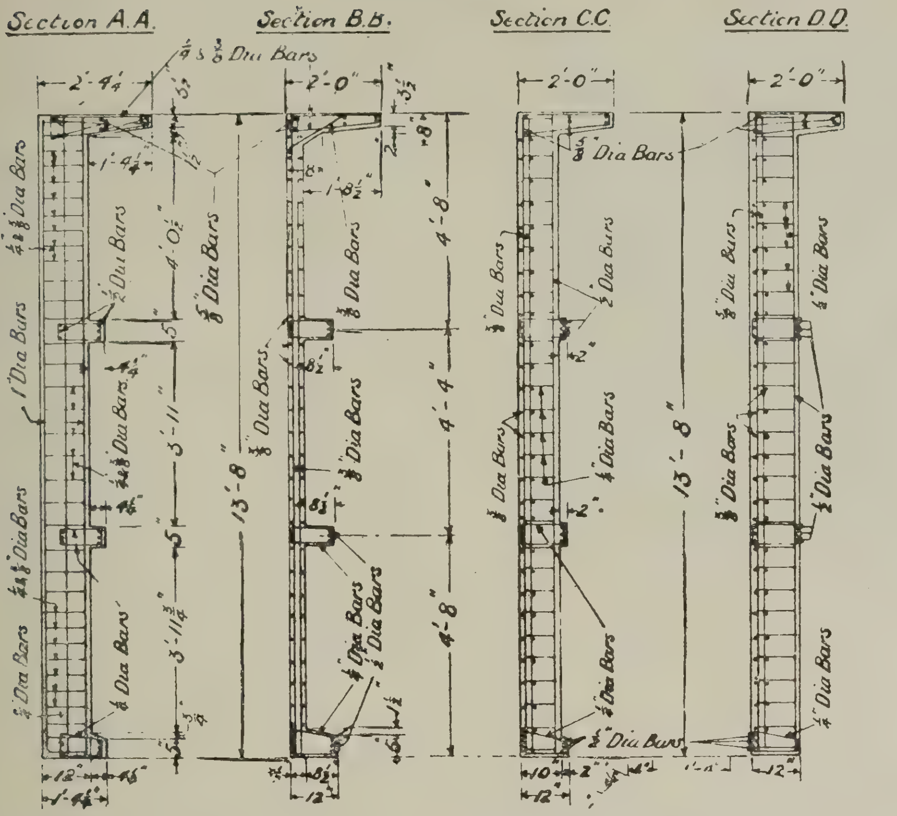


Photo : Stewart Bale, Liverpool.

The offices of the Pacific Steam Navigation Company form part of the great Cunard Building, and are of considerable dimension. The above view in one of the fine corridors is generally typical of the architectural treatment throughout. The piers are finished with decorative plaster relieved by gilding.



REINFORCED CONCRETE LOCK GATES, TILBURY DOCKS: VERTICAL SECTIONS.

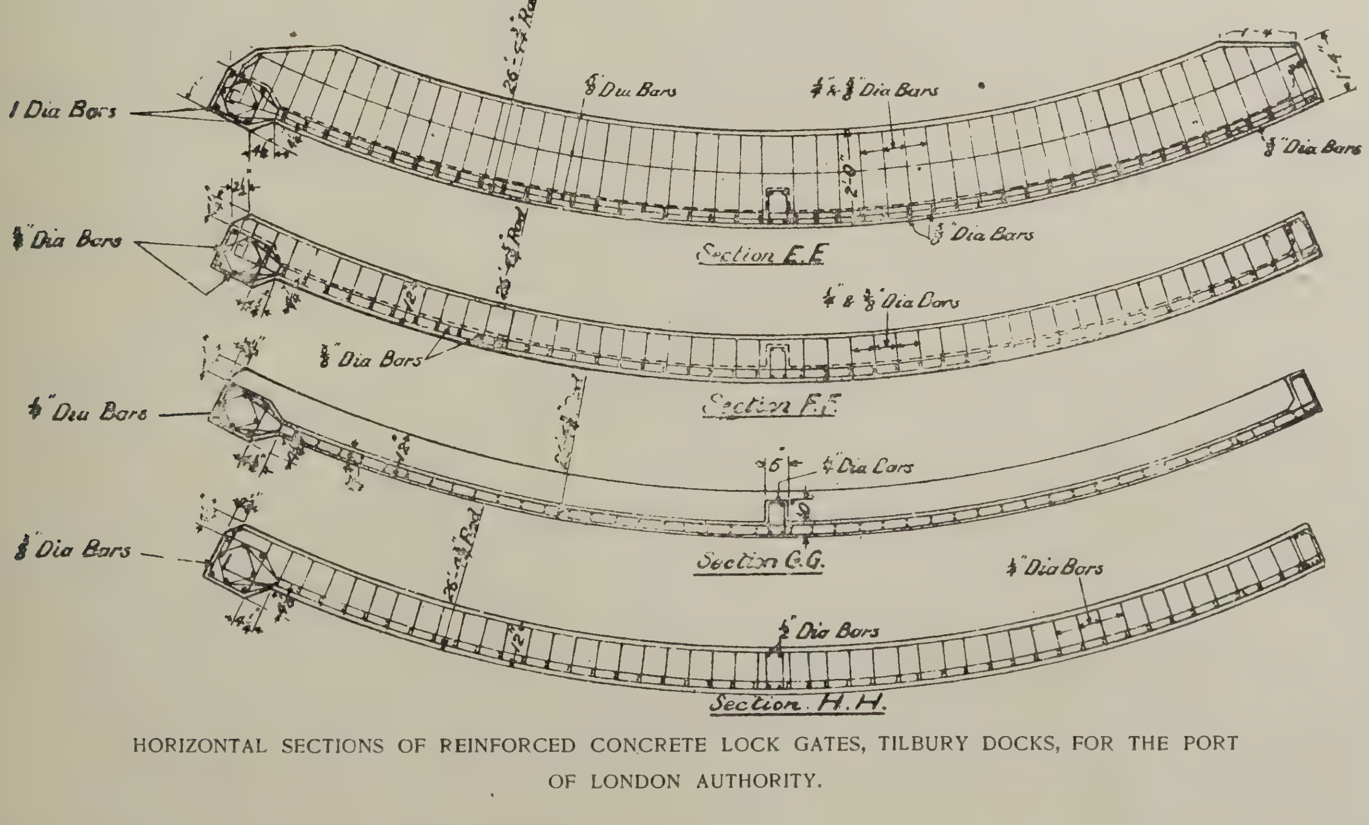
with double horizontal and vertical reinforcement of ⅜ in. rods spaced 6 in. apart, and is stiffened by four horizontal ribs for the whole length, and one vertical rib at the centre of the leaf is introduced between the horizontals. The top horizontal rib is widened out to 2 ft. to form a gangwav over the lock, and has a treble system of reinforcement of ⅛ in. rods with ¼ in. stirrups at 4 in. centres. In thickness it tapers from 5½ in. to 3½ in., and is haunched at the connection with the slab. The two horizontal ribs are 12 in. by 5 in., doubly reinforced with ½ in. rods and ¼ in. stirrups, 6 in. pitch; the bottom rib is 12 in. wide, and tapers from 6½ in. to 5 in. in width; and the vertical centre rib is 10 in. by 5 in., with double reinforcement of ½ in. rods, ¼ in. stirrups, 6 in. pitch.

The heel post is 12 in. by 12 in., exclusive of haunches, and is reinforced with four ¾ in. rods and four 1 in. rods from top to bottom. The horizontal lacings are generally ⅜ in. diameter at 6 in. pitch, but at the top and bottom they are placed 4 in. centres and additional ¼ in. rods are introduced. The reinforcing bars of the horizontal ribs and the slab are carried into the heel post, the ends being hooked round the verticals. On the top and bottom there are ¾ in. steel plates, 12 in. square, and the vertical 1 in. rods are screwed into these. The centre line of the heel post coincides with the centre line of the 3½ in. slab.

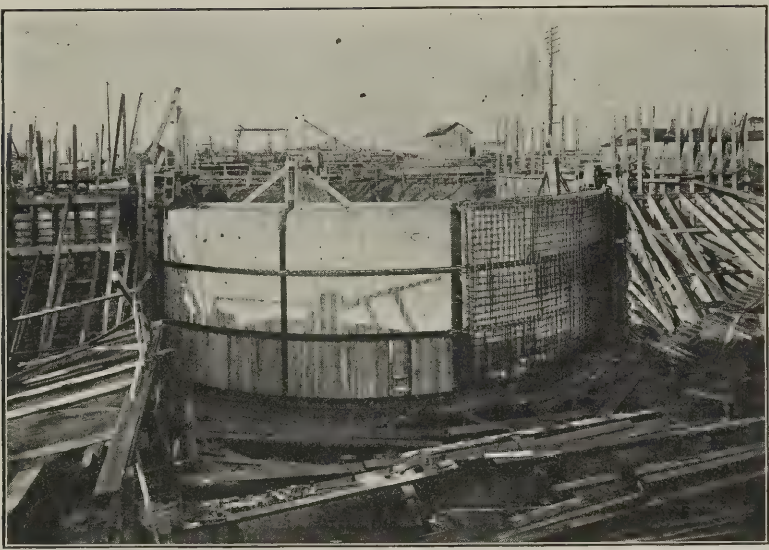
An additional ¾ in. metal plate is fixed on the bottom by four ¾ in. countersunk screws, and there is an elongated hole 4⅛ in. by 5½ in. in each plate to allow of the heel post tightening in the hollow quoin under pressure of the water. The bottom pivot consists of a steel pin 4 in. diameter, held in position by a built-up girder of two channels with top and bottom flange plates and built into the concrete.

The top pintle is a 4 in. diameter steel rod fitted into a gas pipe ferrule in the concrete. The anchorage consists of a 9 in. channel secured to the concrete by holding-down bolts with anchor rods. There is an elongated hole 5¼ in. long in the channel to allow of adjustment. The anchor strap passes round the top of the pintle and through a cast iron lug fixed to the channel, and can be adjusted by a nut in the shore end, sufficient play being allowed for the automatic tightening of the gates when subjected to the pressure of water.

Watertightness is secured by a timber quoin fixed to the concrete post. This is 12 in. wide and the face is curved to a radius of 12 in. The hollow quoin is not curved in the usual manner, but is tangential to the timber face. The timber is fixed to the concrete by ⅞ in. diameter



HORIZONTAL SECTIONS OF REINFORCED CONCRETE LOCK GATES, TILBURY DOCKS, FOR THE PORT OF LONDON AUTHORITY.



VIEW OF CONVEX SIDE OF GATES.

screws fitting into tapped sockets built into the gate about 12 in. pitch reeled.

The mitre posts are 12 in. by 5 in. haunched to the slab and reinforced with six vertical rods ½ in. diameter with horizontal stirrups ¼ in. diameter, spaced 6 in. pitch. The meeting timbers are out of 10 in. by 4 in. fastened to the reinforced concrete by ⅞ in. screws in tapped socket similarly to the heel post. The timber projects beyond the outer edge of the meeting post and is bolted to a 5 in. by 3½ in. vertical timber attached in the concrete. The width of the meeting face is 6 in. and the centre line coincides with the centre of the 3½ in. slab of the gate.

There is no clapping sill in the ordinary sense, but watertightness at the bottom of the gate is secured by means of two leather flaps bolted to the reinforced concrete through the top edge with ½ in. bolts and over-lapping the sill of the gate recess about 5 in. The pressure of water forces these into close contact with a timber facing strip attached to the concrete sill and the gates are quite watertight. The thinner of the two flaps (about ⅛ in. thick) is acting at low heads of water when the force is not sufficient to move the thicker flap (about ¾ in.). At higher pressure the latter is, however, forced tight against the sill and is capable of standing the full 14 ft. head of water. Should the thin flap for some reason or other give way, the thick flap will act as an emergency tightener and close up by the rush of water. At the heel post where the flap would foul the sill when the gate is opened a loose piece of leather is fixed, and is pulled up out of danger by a rod operated from the gangway.

The gates are opened and closed by horizontal poles fixed on supports at the heel post and at the centre of the leaf similar to those used on canal gates. To ensure correct mitreing, stops are fixed on the abutments so that the leaves cannot be closed too far, and a hinged locking plate is attached to one leaf engaging with vertical bars built in the other. Two lifting eyes are cast in each leaf to facilitate unshipping in case of necessity.

The dry dock is filled through sluices in the gates. These are 12 in. square and one is fitted in each leaf towards the mitre post and about one foot above the sill. The concrete is stiffened round the sluice with ½ in. diameter rods, the verticals being carried to the ribs above and below. The paddle and guides are of timber, and the edge of the concrete round the openings is faced with ¼ in. steel plate flanged to fit. The valves are operated by means of a hand wheel from the gangway, the top ends of the rods being supported in a reinforced concrete post.

The gates were erected in position, a temporary dam of earth being left on the main dock side until after testing, which was carried out by water introduced between the temporary dam, the test head being 1 ft. above Trinity High Water.

The drawings were prepared by Messrs. Christiani and Nielsen and approved by the Chief Engineer of the Port of London Authority after the necessary amendments to the original designs had been made. These consisted mainly in the introduction of horizontal and vertical ribs and modifications to the top and bottom bearings. These gates were not designed for frequent operation, and were only used when it was necessary to float out the concrete barges which were constructed inside the dry dock. Work on the barge dock was commenced on March 1, 1918. The construction of the dock gates, which were completed on January 15, 1919, occupied about twelve weeks, and the first five reinforced concrete barges were floated out on May 1, 1919.

[The photographic illustration on page 50 shows the gates after completion. Between them and the water of the main dock will be seen the earthen bank which was removed after the gates had been tested and found satisfactory. The view on this page shows the inside shuttering of the left gate and the reinforcing bars for the horizontal and vertical ribs in position.]

Weekly Housing Report

Grants to Private Builders

The number of houses completed under the Government Grant to private builders showed an encouraging increase during the Christmas season. The Ministry of Health state that between December 17 and December 31 606 privately-built houses were completed, bringing the total number completed at the end of the year to 5,429. The grant had been paid on two houses only by the end of April last. Altogether £1,241,560 has been paid in grants to builders. Preliminary certificates issued to builders now amount to 29,657. The assurance of the Government that a measure legalising the payment of the full grant during the present year would be introduced early in the next session has reassured prospective builders. The total amount earmarked for payment of the grant in England and Wales is £12,000,000, to the payment of £7,198,651 of which the Government is already committed. A very large sum therefore is still available for the encouragement of private enterprise.

Progress of Housing Schemes

New housing schemes submitted to the Ministry of Health during the fortnight ended December 31 numbered forty-nine, bringing the total number of schemes submitted to 11,441. The schemes approved now number 11,062 and comprise about 57,611 acres. Fifty-nine lay-out schemes were submitted, and forty-nine were approved during the fortnight, bringing the total number of lay-outs submitted to 7,005 and number approved to 6,423. House plans representing 1,881 houses were submitted, and plans for 1,669 houses approved. The total number of houses represented in all plans now submitted is 284,480, and in the plans approved 268,002. During the fortnight tenders were submitted for 3,088 houses. Tenders for 2,538 were approved, bringing the total number of houses in tenders submitted to 182,873 and in tenders approved to 169,235. Contracts have been signed for 137,857 houses.

Housing and the City Corporation*

By Eugene C. Beaumont, M.S.A.

I wish to raise a question concerning the National Housing scheme as regards the City of London. I understand that the Corporation contemplate, and have sanctioned, the spending of a sum of £2,000,000 on the provision of houses so greatly needed by the population of London at the present time, and that the scheme is now in hand. I think it will be agreed that the work occasioned by this large scheme should be so apportioned that the ratepayers of the City who are connected with the building trades, and who have to find their share of the money for the scheme, should have, and are first that are entitled to have, a fair share in the work.

In many districts the authorities have done all in their power to see that each architect had some portion of the local housing scheme placed in his hands, and one would naturally suppose that the greatest municipal body in the country, the Corporation of the City of London, would not be behind hand in such a matter. I understand that the large body of architects in the City of London are reaping no benefit from the City's housing scheme, but that most, if not all of the architectural work is being done from the office of the City Surveyor. With a scheme of the size of that sanctioned by the City, I consider this a great injustice to the architects of the City.

---

* Extracts from an address to the Wardmote of Farringdon Without.

The Week's News

Hull Housing Schemes.

The Corporation are considering the erection of 500 houses.

Gainsborough Housing.

Gainsborough U.D.C. have decided to erect sixty-five houses.

Portsmouth Municipal Cement Works.

Portsmouth is considering the opening of municipal cement works.

Bristol Housing Loan.

The Ministry of Health have sanctioned a loan of £18,158 for housing.

New Cinema for Southport.

Permission has been given to erect a new cinema theatre at Southport.

South Shields Housing Scheme.

A start is to be made on the erection of 200 houses on the east side of Sunderland Road.

Housing at Southwick.

Southwick U.D.C. have decided to borrow £130,000 for the erection of 168 houses.

Norton Housing.

Norton (Malton) U.D.C. have purchased for £900 a site upon which to erect workmen's houses.

Gravesend Housing.

Gravesend T.C. have approved plans and estimates for the laying-out of land for a further 250 houses.

Housing at Knaresborough.

The Public Works Loan Commissioners have decided to grant the R.D.C. a loan of £26,635 for housing.

Tredegar's Housing Loan.

The Ministry of Health have sanctioned the raising of a loan of £100,000 for the erection of 100 houses.

Wrexham Housing.

The T.C. have decided to erect 134 more houses on the Acton Park estate in addition to the 118 now being built.

Housing at Darwen.

Darwen T.C. have approved the erection of forty-one municipal houses on partly developed sites at a cost of £43,000.

Bedford Housing Scheme.

The U.D.C. have decided to apply to the Public Works Loan Commissioners for a loan of £50,000 for the housing scheme.

Mold Housing Scheme.

Mold U.D.C. have decided to erect fifty-four houses (twenty-eight parlour and twenty-six non-parlour) at a cost of £58,020.

Housing at Rufford.

Southwell R.D.C. have approved the erection of 300 houses at Rufford, 150 to be built by the Council, and 150 by the Bolsover Colliery Company.

London's New County Hall.

It is estimated that £1,294,800 will be spent upon building work alone before the construction at present in hand is completed.

Pontypridd Housing.

Application is to be made to the Public Works Loan Commissioners for a loan of £214,000 to cover the cost of the erection by the Office of Works of 200 houses.

300 *More Houses for Bulwell.*

The lay-out of the site at Bulwell, which the Nottingham Housing Committee acquired some months ago from the Duke of Newcastle for £10,716, has now been prepared. The design makes provision for 300 new houses and six new shops.

Death of Mr. F. Chambers.

The death has occurred at Goole of Mr. Frederick Chambers, A.R.I.B.A., architect and surveyor, at the age of sixty-seven.

R.I.B.A. Grants.

The Council of the R.I.B.A. have made the following grants: Conjoint Board of Scientific Societies, £20; British Engineering Standards Association, £5.

Tynemouth Housing Loan.

The Ministry of Health have sanctioned a loan of £12,000 for houses and £1,740 for the purchase of land in Haldon Avenue. Plans for forty-four houses have been prepared.

Housing at West Bromwich.

A proposal is afoot to lay out the Charlemont site for housing purposes. Provision will be made for the erection of 388 houses and twelve shops, with a site for an institute, schools, and recreation grounds.

New Dwellings for Jarrow.

The first sod has been cut on the Wood Terrace site, near Monkton, where the Jarrow Corporation are to erect 148 semi-detached four-roomed and five-roomed dwellings.

Nottingham Power Station.

An additional expenditure of £324,000 has been sanctioned by the Nottingham Corporation on the new power station, bringing the total expenditure on the first section to £1,193,000.

Somerset Housing.

Sixty per cent. of the new houses being erected at Coleford (Bath), Mells, and Haydon are roofed in. Frome R.D.C. have eighty-nine houses in their present scheme. Of these fifty-two are in course of erection.

Exhibition of Drawings.

An exhibition of drawings by the late Temple Moore and Gerald C. Horsley is now being held at the Architectural Association, 34 and 35, Bedford Square, and will remain open until January 19.

Blyth and Cuckney Housing.

The Blyth and Cuckney R.D.C. have approved a housing scheme at an estimated cost for houses of £67,384 19s., and £942 for land. The Council have decided to apply for sanction to borrow the money.

Professional Announcement.

Messrs. Chadwick and Watson, of Crown Chambers, 9, Albion Street, Leeds, have taken into partnership Mr. Arthur Drake and Mr. Wm. S. Backhouse, who have been associated with them for many years. The title of the firm will now be Chadwick, Watson, and Co.

Newstead Abbey Sale.

Newstead Abbey has been placed on the market. The huge library contains 7,000 volumes, including Napoleon's copy of Ovid, with plates by Eisen, Gravelot, and Boucher. The general furniture, which dates from Tudor times to Chippendale, includes several notable carved Jacobean bedsteads and tables, and twelve rare William and Mary chairs.

Selby Housing.

Selby U.D.C. have prepared an additional housing scheme, a comprehensive town-planning scheme, and it is proposed to rebuild or replace the old and insanitary areas, The Council have built about 200 houses, and the scheme in hand is for providing a further 300 houses.

Houses for Spenborough.

The Housing Commissioner has authorised the Council to accept tenders amounting to £18,160 for the erection of twenty houses in Gomersal, and £27,240 for the building of thirty houses in Cleckheaton. The houses are of the type containing three bedrooms and a living room.

New Theatre at Stafford.

A new theatre has been opened in Stafford. The building is designed on the most up-to-date lines, every attention having been paid to the lighting effect and to the ventilation—the latter is on the combined Plemun and direct heating system. In the lighting special effects are obtained by the new dimming process. The architects were Messrs. Sandy and Norris, F. and A.R.I.B.A., of Stafford.

Guards' War Memorials.

In Holy Trinity Church, Windsor, it has been decided to erect a new reredos and side panels in the chancel to the memory of those of the Household Battalion and Brigade of Guards who fell in the war; and a new screen and shrine for the Roll of Honour to the memory of the Household Cavalry. Mr. Gilbert Scott, A.R.A., the architect for Liverpool Cathedral, is the architect for the reredos and side panels.

Mr. Bradshaw's Successor.

Councillor R. Coppock, a Labour member for the Blackley Ward of Manchester City Council since 1919, has been appointed general secretary of the National Federation of Building Trades' Operatives. Councillor Coppock, who is thirty-five years of age, had been a divisional officer and organiser of the Bricklayers' Operatives' Society for eleven years, and had been actively identified with the Manchester and Salford Trades and Labour Council for over fifteen years.

Death of Mr. David Carr.

The death is announced of Mr. David Carr, artist, architect, and brother of the late Mr. J. Comyns Carr. Mr. David Carr was a pupil of Mr. W. H. Barlow, consulting engineer to the Midland Railway, and for a time followed the profession of a civil engineer. He became a constant contributor at the Grosvenor Gallery, at the New, and later on he exhibited at the Royal Academy, Munich, Melbourne, and Sydney. He built the newer portion of Beer, near Seaton, and houses after his designs are conspicuous at Budleigh Salterton, Crewkerne, and Exmouth.

Hull Building Revival.

In Leeds during the past twelve months sixty-seven houses and 823 miscellaneous buildings have been completed. The large buildings completed during the year included four factories, five extensions to works, and eight picture houses. Buildings now in course of erection include twelve factories and works, twenty-one additions to factories and works, three picture houses, and additions to the University, the General Infirmary, and the Electricity Works. The position of the Corporation's housing schemes is that contracts have been signed for 2,252 houses, 636 are under construction, and fifty-five are completed. The total number of houses to be erected is 5,800

Trade and Craft

Davis Geysers.

In view of the wide and increasing popularity of the geyser as a simple and efficient means to obtain an instantaneous and continuous supply of hot water, the new edition of the catalogue of the Davis Gas Stove Company, Ltd., has been issued at a most opportune moment. There are two distinct types of geysers, the "open" or direct-heating type and the "sealed" or chamber-heating type. In the "open" type the inflowing water descends in a shower, stream, or film, and is heated by coming into direct contact with the hot gases arising from the burner flames. For this reason, water from an "open" geyser should not be used for drinking purposes, though in other respects "open" geysers may be thoroughly satisfactory. The "open" principle permits of extreme simplicity of construction, and is specially recommended for use in districts where the water is hard or contains an excess of iron, lime, or chalk. Other things being equal, geysers of this type are considerably cheaper than the "sealed" type, though not now so popular as the latter.

A "sealed" geyser is so constructed that the water cannot possibly come into contact with the combustion gases, and therefore runs out of the machine as pure as it flows into it. Among the geysers of the company especially worthy of mention are the Perfecta, Niagara, Shamrock, and the Thistle.

The "Perfecta" geyser, a high-grade "sealed" type with detachable interior and standardised parts, has been designed to ensure the utmost rapidity of heating with the minimum consumption of gas, and affording facilities for cleaning and inexpensive maintenance. No solder is used in the interior, the whole of which slides into the outer casing and is secured by the outlet pipe and a single additional screw. By simply removing the outlet pipe and screw, the complete interior can be taken out without disconnection of the water or gas. The covers can be removed from the trays momentarily, and the whole of the surfaces thus exposed for inspection and cleaning. In the "Niagara" geyser, an "open" type, the water enters through a cup inlet, descends in a shower, and is heated by direct contact with the ascending gases.

The "Shamrock" geyser has been considerably improved by the application of a detachable interior to this "sealed" type machine. The advantages of this improvement, which was at one time an exclusive feature of a high-priced geyser, are obvious, and, in the case of the "Shamrock," are enhanced by the standardisation of all those parts (including the interior itself), which, after some years' use, are most likely to need renewal; so that only in the most exceptional circumstances would it ever be necessary to send the entire machine away for repairs.

Full particulars of the above and other types of geyser may be obtained from the company at 60 Oxford Street, London, W.1

New Agency.

Messrs. R. W. Lovegrove and Co., of 12, Rochester Row, London, S.W.1, gas and water engineers, have secured the sole agency for the British Isles for the products manufactured by Geo. W. Cole, Ltd., of Toronto, among which is the Cole tilting steam trap, suitable for high and low pressure heating installations and for drying, cooking, and faulty circulation.

Competitions Open

Lockerbie.

War memorial; cost, £2,000. Apply Mr. David McJerrow, Town Clerk, Lockerbie. Closing date, January 31.

R.E. Memorial, Chatham.

War Memorial. Assessor, Sir Reginald Blomfield, R.A. Premiums, £200, £125, and £75. Apply Secretary R.E. Memorial Sub-Committee, R.E Institute, Chatham. (See our issue of November 24.) Closing date, March 17.

Licensed House in a Large Town.

With a view to obtaining suggestions for improving the existing type of public-house, the Court of the Worshipful Company of Brewers offers premiums of £300, £150, and £50 for the best design for a licensed house on a given site. Competitors must be Members or Licentiates R.I.B.A. The President has consented to act as assessor. Apply Secretary, R.I.B.A. Deposit, two guineas, which will be returned to all competitors submitting bona-fide designs. Closing date, January 31.

East Ham General Hospital.

The East Ham Hospital Committee invite competitive designs for the erection of a general hospital in Shrewsbury Road, East Ham, at a cost of £40,000. Assessor, Mr. George Hubbard, F.S.A., F.R.I.B.A. The author of the design placed first will be appointed architect, and premiums of £75 and £50 will be awarded to the authors of designs placed second and third. Apply, Mr. Ernest Richardson, of "Montfitchet," 296, Katherine Road, Forest Gate, E.7. Closing date, February 25.

Canadian War Memorials.

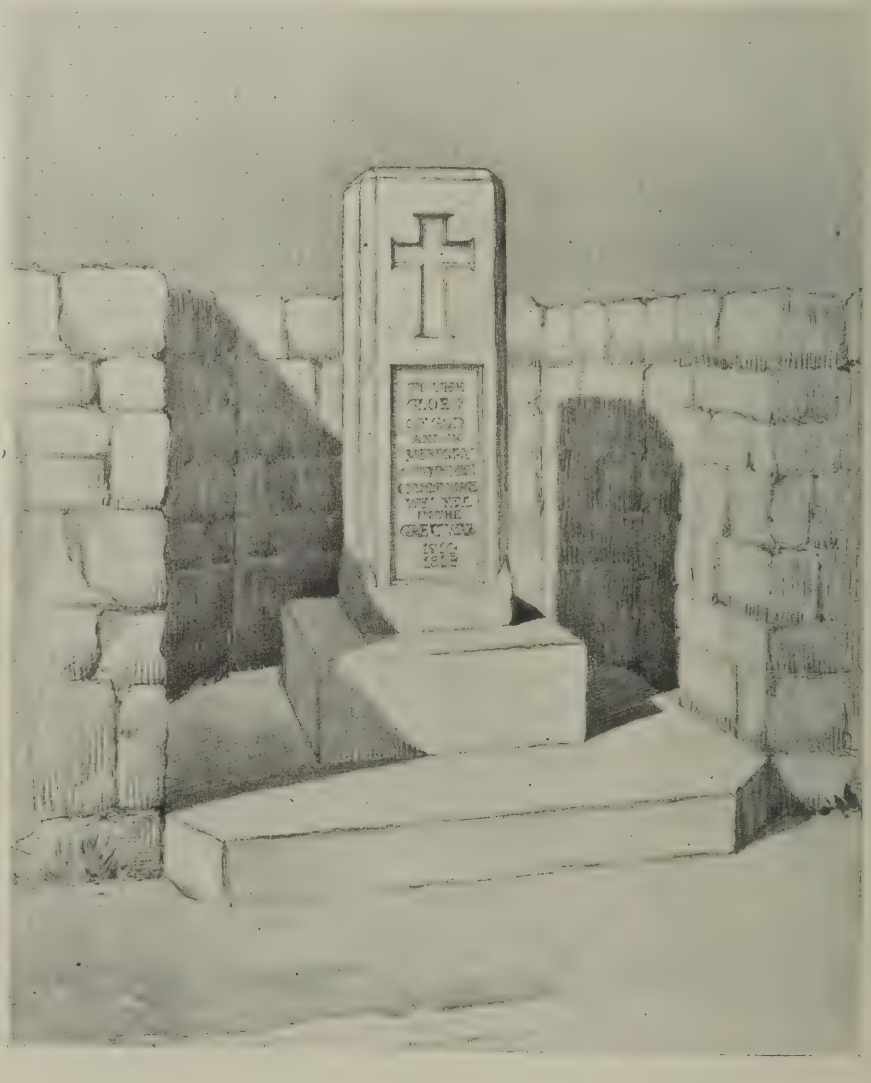
Canadian War Memorials in France. Assessors, Messrs. Frank Darling, F.R.I.B.A., Paul P. Crét, and Prof. C. H. Reilly, F.R.I.B.A. The assessors will assemble in Canada in the spring to arrange details.

Glasgow.

War Memorial for Vestibule of High School. Assessor, Mr. John Keppie, F.R.I.B.A. Competition confined to former pupils of the High School. Apply, Mr. Hugh R. Buchanan, 172, St. Vincent Street, Glasgow. Closing date, January 31.

Dulcote War Memorial

The village war memorial design illustrated below is the work of Major A. J. Toomer, a late resident of the picturesque hamlet of Dulcote, near Wells, Somerset. It is proposed to erect the memorial in a recess to be formed in the wall of the village churchyard at a cost of £23. The obelisk, plinth, and base stone will be in local granite, left rough from the hammer, with the cross and inscription panel cut in and polished. The perspective drawing is by Mr. Joseph Pike.



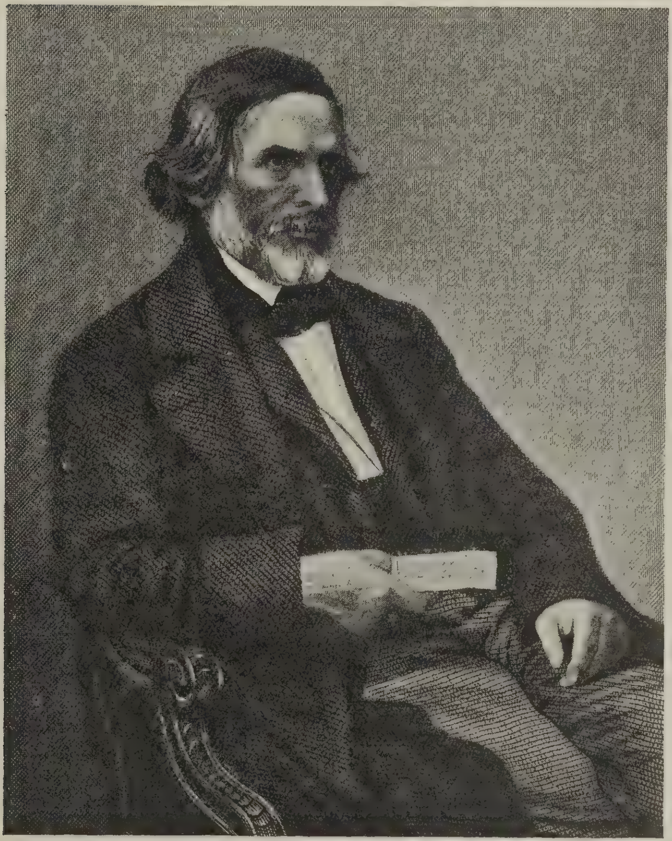
WAR MEMORIAL AT DULCOTE, NEAR WELLS, SOMERSET.

MAJOR A. J. TOOMER, ARCHITECT.

Wednesday January 19, 1921 Volume LIII. No. 1359

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



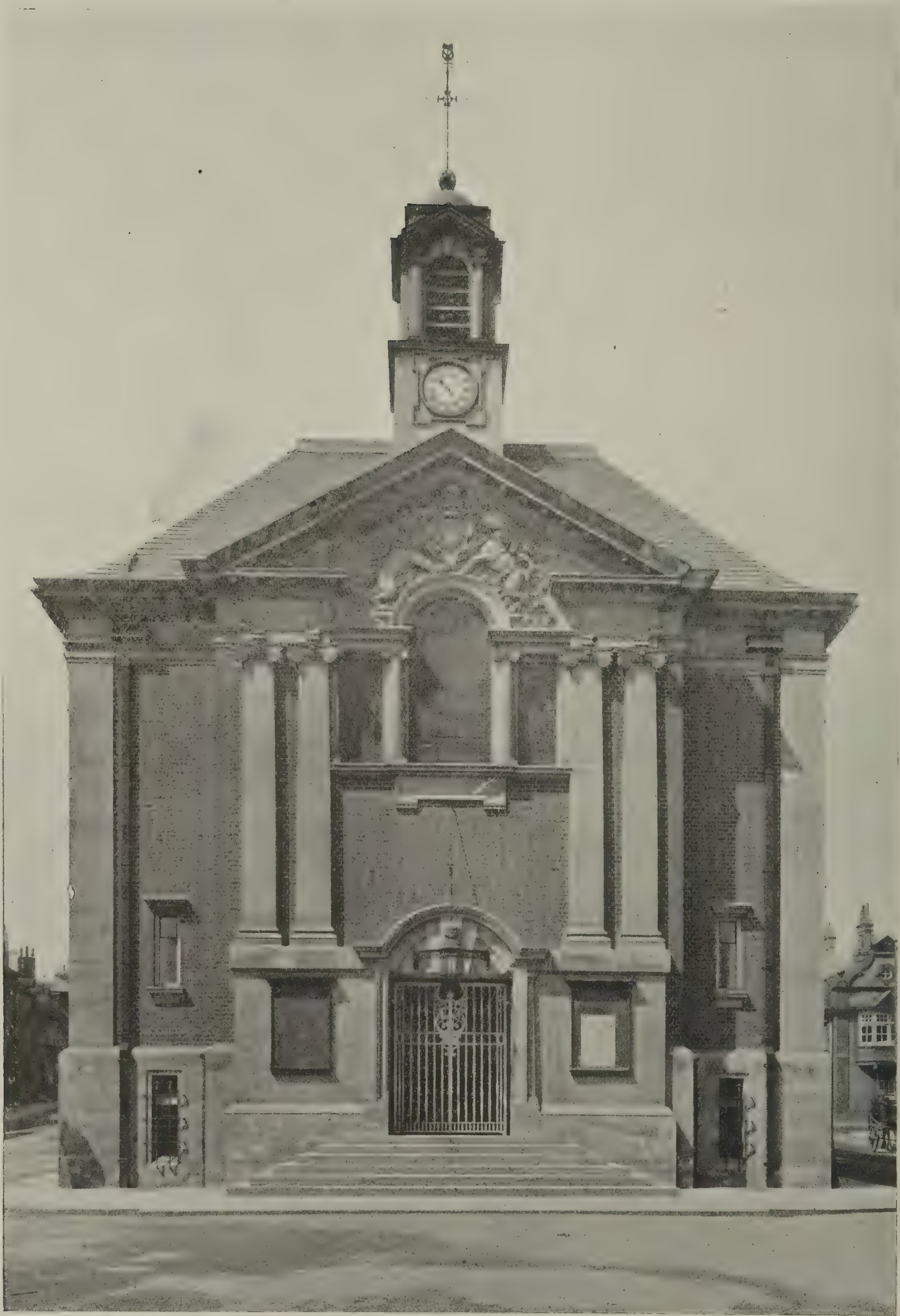
JOHN GIBSON, R.A. (1791-1866).

Born at Gyffyn, near Conway, North Wales, the son of a landscape gardener. Removed early in life to Liverpool, where he made the acquaintance of William Roscoe, then a wealthy banker, successful author, and generous patron of art and artists. Supplied with funds through a Liverpool subscription, Gibson, in 1817, went to Rome, where he worked in the studio of Canova, who helped him considerably, both on the technical side of his art and in obtaining commissions, Queen Victoria, the Emperor of Russia, the King of Bavaria, the Duke of Northumberland, Sir Robert Peel, and many others being among his patrons. He also studied under Thorwaldsen, but the old Greek sculptors were his true masters, and their influence is apparent in all his works.

27-29 Tothill Street, Westminster, S.W.1.

Henley Town Hall: Detail of Main Entrance

The late Henry T. Hare, F.R.I.B.A., Architect



It is our painful duty this week to record the death, at his residence at Farnham Common, of Mr. Henry T. Hare, Past-President of the Royal Institute of British Architects, of whose career some account is given elsewhere in the present issue. Henley Town Hall, erected in 1898, is a typical example of his work.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, January 19, 1921 Volume LIII. No. 1359

Notes and Comments

The Approach to Unification

AMALGAMATION or Federation? That is the question, the alternative words being those used in the annual report of the Society of Architects. This report is commendably free from the combative tone that has been, rightly enough, a customary feature of former reports issued by the Society. In those, the fighting spirit was natural, and even laudable; the Society had a cause to win. A truce having been called, an amicable tone is very properly maintained, and we trust that ere long a new League of Architects will see to it that the old keen warfare will never blaze forth again. Unification being undoubtedly the unanimous desire of the Profession, the method of securing it is, after all, merely a subsidiary question—a matter of detail rather than of principle. Nevertheless, the question is sure to be debated very vehemently, but, we trust, quite amicably. It is impossible to believe that the Architects' Unification Committee will disagree fundamentally on the way to do a thing that so obviously ought to be done, and done quickly. It is stated in the report that during the year it covers, the Society had continued to urge upon local authorities and members of Parliament the necessity for encouraging private enterprise in building as a means of stimulating the production of houses in connection with the national housing scheme, and for opposing restrictive building legislation by the Ministry of Health. Splendid; but in dealing with Governments a united front is vastly more powerful than successive attacks by scattered forces. A great mistake has been made in not combining all the divisions of the building industry—architects, contractors, and operatives—in a general advance. This combination would have been irresistible, and would have prevented the Health Ministry from meddling with national housing, and would have saved the Labour Ministry from what promises to be an equally flourishing crop of blunders. The Society of Architects is therefore to be congratulated on its adoption, in its report, of the tone that makes for unity.

The National Federation

At the annual general meeting of the National Federation of Building Trades Employers of Great Britain and Ireland, the agenda is usually taken up with business matters that are mainly of routine character. Accounts and balance-sheets and the annual report are presented, president and officers are elected, and so forth. This year's agenda, for the meeting which is to be held on January 26 at the Connaught Rooms, Great Queen Street, London, W.C.2, opening at 10.30 a.m., seems on the surface to be innocent of all contentious issues. Nevertheless, we venture to think that unspecified recommendations from the Council, which holds its meeting on the previous day, will comprise matters of vital importance to an industry in which "unrest" is chronic rather than intermittent. We anticipate, therefore, that the annual general meeting will yield much matter that will infuse vital interest into the report of the proceedings, which will appear in our columns in due course.

Mr. Henry T. Hare

It was a great and an exceedingly painful shock to hear, last Wednesday, of the death of Mr. Henry T. Hare, Past-President of the Royal Institute of British Architects. Sir William Llewellyn's masterly portrait of him, exhibited in last year's Academy, showed him in the prime of life, and apparently in the enjoyment of vigorous health—a typical hardy Yorkshireman. It was hard to realise that he had been articled as long ago as 1876, and it is now sad to reflect that when in due course the portrait was presented to the Institute, Mr. John W. Simpson's reference to *mens sana in corpore sano* could not, alas, have been wholly true with respect to Mr. Hare's bodily health. A native of Scarborough, and educated at Sheffield and Harrogate, Mr. Hare had all the good qualities for which Yorkshiremen are famed—to grit, character, courage, energy, dogged determination, he added shrewd judgment, cautious utterance, clear-headedness; and his mother-wit had been trained and disciplined by twenty-five years of devoted service on the Council of the Institute. As Mr. Arthur Keen once said of him, "he combined simplicity and directness with a certain air of authority," and hence he could uphold the dignity of the chair without incurring the slightest suspicion of pomposity. He had, indeed, a genial manner and a transparent sincerity that won him friends and adherents where a man of less winning disposition would have provoked active antagonism; and this personal ascendancy when he was in the chair was in great measure the effect of his being, as Mr. John W. Simpson has said, "a pre-eminently common-sense President." He held that post during a period of exceptional difficulty—1917 to 1919—when the strength and stability that distinguished him were of more value than sheer brilliancy would have been. One excellent piece of work he did as a member of Council was his reform of competition conditions. He laboured hard to make them fair and equitable, and in that object he succeeded beyond all expectation. In his architectural practice he made a niche for himself. Beyond all his contemporaries he spoke with authority on the design and planning of public libraries, of which he had made an exhaustive study, and of which he had built a large number, those at Islington and Hammersmith being specially noteworthy. Among his most admired work are the town hall at Henley and the United Kingdom Provident Institution in the Strand; but his domestic work, especially that done in more recent years, more aptly expresses the directness, simplicity, and strength of his personal character. He will be sadly missed at the Institute, which, as he once said, half in jest and half in earnest, he had made his second home. He will be missed most by those who had counted on his personality—with its strength, moderation, and sagacity—as an indispensable steadying and guiding influence in the coming campaign for unification of the profession. A cedar of Lebanon has fallen.

The Maze of Streets

Undoubtedly the "Daily Mail" did good public service in organising a village sign competition. A work of still greater utility would be to awaken the public to a due sense of the enormity of leaving London suburbs a chaotic maze of streets, many of them without so much as a label, and all without a clue; for even though it may chance to have its own name written plain for all to see (by daylight, but not by night), it does not tell you whither it leads, or whether you are journeying north or south, east or west; all which information, and something more, it should invariably impart to the otherwise bewildered traveller. A conspicuous case in point is that of the Bishop of Southwark, who confesses ruefully to the "loss of valuable time in wandering through streets with a heavy bag," inquiring his way to the local church. About public-houses and picture-houses he could get copious information from the man in the street, who, however, "displayed a most regrettable ignorance as to the position of the parish church"—did not, in fact, know whether it had adopted the eastward position or whether it had gone west. A bishop with a big bag ought to be exempted from this exciting sport of steeple-chasing. At every street corner, and at convenient intervals where the street is long, a lamp-post should function as a guide-post, giving all the direction a wayfarer could reasonably need. It should show the points of the compass, and give clear directions to the nearest town-hall, post-office, doctor, hospital, ambulance, police-station, railway station, and fire-station, and show a clear plan of the district. It would be well worth its cost; for it would save every day much precious time, and would be a boon to others who may be much less distinguished than bishops, but are much more numerous, and much more prone to express themselves unguardedly.

Gate Memorials

The derivation of January as the entrance-gate of the year brings to mind the increasing regard for the gateway as a war memorial. The Gate of Honour at Mill Hill School, which Mr. Stanley Hamp has invested with such impressive dignity, is likely to be the parent of many. Whether it was the cause of this motif being adopted for the "visible memorial" at Clifton College is not certain, but seems antecedently probable; for the meeting at Caxton Hall of Old Cliftonians who approved of the proposal that the monument "should take the form of an arched or open gateway at the Clifton road entrance to the school" was held some weeks later than the inauguration (by General Lord Horne) of the Mill Hill memorial. One must, however, beware of the fallacy, *post hoc, ergo propter hoc;* and the gate form of memorial is probably much older than the serenely beautiful legend: *Mors janua vitæ.* That, if we remember rightly, is the inscription on the Melbourne gateway on the north side of St. Paul's Cathedral. That monument, however, is not a real gate, but only, in effect, a large mural tablet, and, as being rather in the nature of a sham, erected at a date when false taste was peculiarly rampant, can by no means be recommended for imitation.

Chequers on the Chilterns

On Saturday evening, January 8, Mr. Lloyd George, as Prime Minister of Great Britain, took over Chequers, Bucks, which has been presented to the nation by Lord Lee of Fareham, for the use of the Prime Minister for the time being. It was first called "Chekers" as being originally the residence of Elias de Scacarrio, Keeper of the King's Exchequer, in the reign of Henry II. The estate, which has a total area of 1,500 acres, includes Coombe Hill, the highest point in the Chilterns. The mansion, which is typically Tudor, contains about fifty rooms, some of which contain fine pictures and statuary, which should be of great educational value to future Prime Ministers; they being, generally speaking, a race entirely innocent of art.

"Cast Down but Not Destroyed"

It has been suggested to us that Devonshire House, although it will almost certainly be removed from its present site, need not be utterly obliterated. Its stones should be numbered and re-erected on some other site—perhaps somewhere on Thames bank, say in the Chelsea district—where it would serve both as a memorial of the gracious building methods of other days and as a museum of art for which some of its present contents (if they have not been all irretrievably dispersed) might serve as a nucleus. The successful transference of Crosby Hall from Cheapside to Chelsea is an encouraging proof that when it is considered expedient to remove a notable building from its original environment it is not absolutely necessary to disperse the materials. But, alas! the environment is itself an irreparable loss.

Devonshire House and the Green Park

Devonshire House being doomed, the district in which it is situated must see extensive changes. It will become almost painfully modern, Devonshire House being the sole reminder of more leisurely days. Even the park that faces it has worn for years a painfully modern complexion, and will not look more ancient when the Ministry of Transport runs a new road through it to supplement the reform that is to be effected by widening Berkeley Street to 56 ft. It is hoped that this widening will relieve the chronic congestion of traffic in Bond Street. These "improvements" (a term that has acquired a distinctly technical sense) were apparently first proposed by the London County Council, and an exceedingly hopeful aspect of the situation is the willingness of the Ministry of Transport and the Westminster Council to share the expense, which involves £70,000 for the acquisition of the land adjoining Devonshire House, and £15,000 for the cost of widening. This, happily, is by no means the first instance in which Government and civic authorities have demonstrated the effectiveness of the co-operative spirit.

R.I.B.A. Prizes and Studentships

The awards of the R.I.B.A. Prizes and Studentships, which are announced as we go to press, are given in full on page xxvi. In our next issue we hope to publish reproductions of the principal designs, together with a special critique of the exhibition, which is now being held in the Institute Galleries at 9 Conduit Street.

State Interference

Correspondence to which considerable space has been given in "The Times" during the past week criticises very caustically the Government's housing policy, or impolicy. Thus, Dr. P. E. Roberts, of Worcester College, Oxford, tersely summarises the situation. When the shortage of houses became acute, he says, "there were two possible courses of action. One was to allow economic forces free play to develop their recuperating power; the other was to manipulate and neutralise those forces by State action." If the former course had been adopted the position would tend to right itself. "The second course meant tiding over (or seeming to tide over) the initial difficulties at the cost of stereotyping and intensifying the main evil." And of course the Government instinctively took the wrong turning.

The Late Mr. Henry T. Hare

It is with deep regret that we record the death of Mr. Henry Thomas Hare, Past-President R.I.B.A., which occurred last week at his residence at Farnham Common. The immediate cause of death is not definitely known at the moment, but there seems to be little doubt that the tubercular trouble which attacked him about twelve years ago, and from which it was thought he had made a complete recovery, had again asserted itself. It will probably come as a surprise to many that Mr. Hare had suffered, and was still suffering, from this disease, for he was a man of big physique and apparently of robust constitution. He was about sixty years of age.

A native of Scarborough, Mr. Hare was educated privately at Sheffield and at Harrogate, and served his articles so long ago as 1876, studying subsequently at the Ecole des Beaux-Arts, Paris. He was the Ashpitel Prizeman of 1886, and became an Associate of the R.I.B.A. in 1887—his connection with the Institute having thus extended over the long period of nearly thirty-five years. He became a Fellow in 1898, and subsequently held the following offices: Vice-President, 1904-1908; Hon. Sec., 1909-13; President, 1917 - 19. Also, he was twice President of the Architectural Association. In spite of his age, he went out to France during the war, and, with the late E. A. Rickards, was employed in negotiating with the French authorities in billeting troops, and similar duties of organisation.

(*By Courtesy of the R.I.B.A. Journal.*)

THE LATE MR. HENRY T. HARE, PRESIDENT R.I.B.A. 1917-19.

From the portrait painted for the Institute by Sir Wm. Llewellyn, A.R.A.

During his long and distinguished career Mr. Hare was responsible for the design of a considerable amount of work, one of his earliest buildings being the Town Hall at Oxford. His most ambitious and perhaps most familiar work in London is the United Kingdom Provident Institution in the Strand, opposite the church of St. Clement Danes. In this building Mr. Hare showed his capacity for handling free-Classic elements in a big way. The County Buildings, Stafford, and the Town Hall, Henley, are among his better known buildings of civic character, while in the collegiate branch of architecture Westminster College, Cambridge, and University College of North Wales, Bangor, stand to his credit. There can be no doubt, however, that he excelled most of all in the planning of libraries, and it is by this work that he will be chiefly remembered.

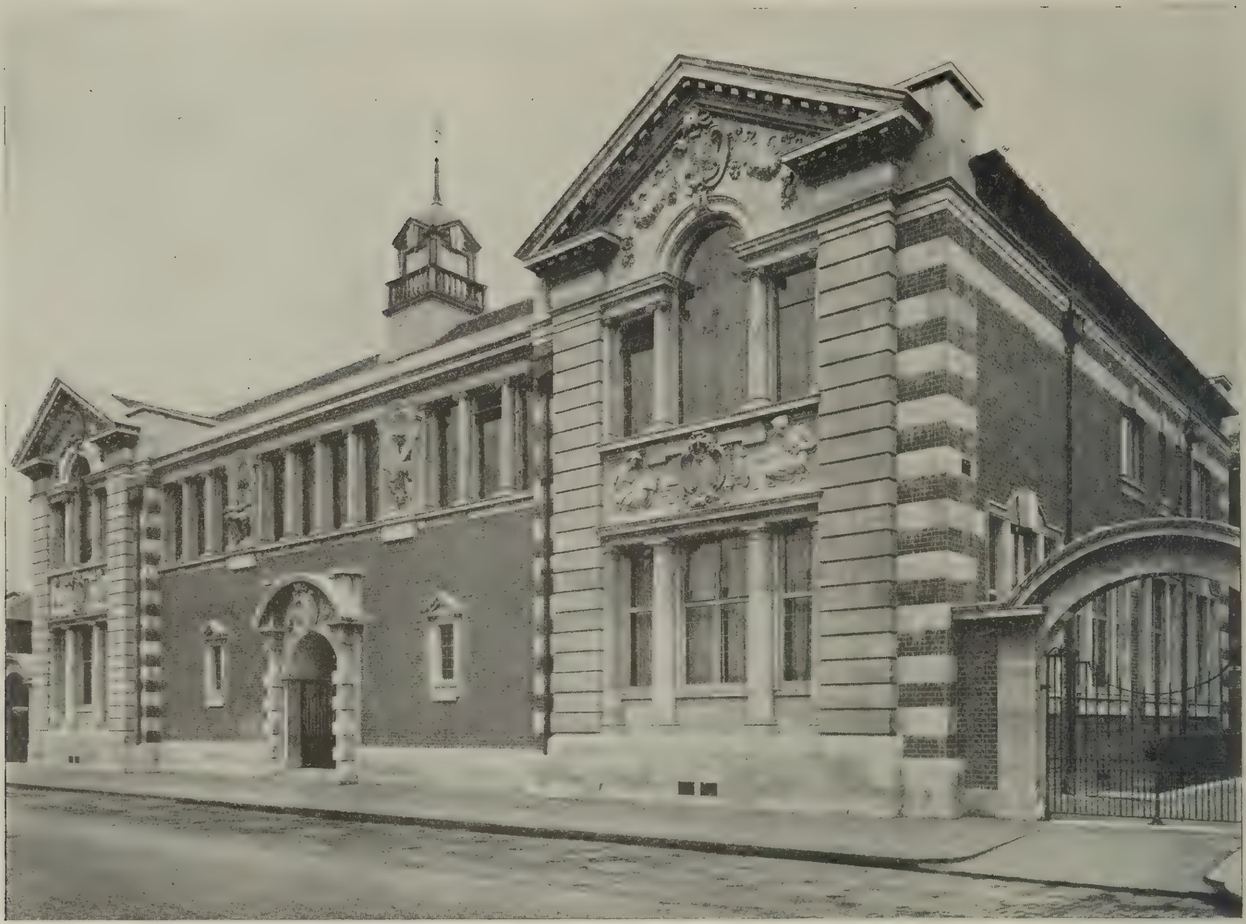
The Public Libraries Act provided many new problems for architects, very few of whom at first fully realised what was expected in connection with it. Mr. Hare, as Mr. Arthur Keen has said, "applied himself with singular vigour to the problem, and it was he who established the standard of the public library." He was the recognised authority on this branch of architecture within recent years, and librarians were unanimous in praise of his work. Among the most important of his library buildings are those at Hammersmith, Islington, Fulham, Harrogate, and Wolverhampton.

It may be recalled, also, that when, some few years ago, the Institute decided to extend and partly reconstruct their premises in Conduit Street, the work was entrusted to Mr. Hare, who carried out his task with complete success, providing the Institute with two capacious and well-lighted galleries for meetings and exhibitions, and a new common-room, wherein are hung the portraits of past-Presidents, including that of Mr. Hare himself.

The events associated with Mr. Hare's presidency of the Institute during the years 1917-19 are of too recent date to require more than a brief recapitulation here. His term of office, coinciding with the closing years of the war, was one of almost unexampled difficulty and anxiety. The problems of reconstruction and of housing were becoming increasingly urgent. Mr. Hare promptly formed a committee of members of the Institute and the Allied Societies to consider the whole question of housing from the architect's point of view. It was largely owing to his efforts that the National Housing Competition was held, and to him fell the task of preparing an exhaustive report to the Government on the result of the competition. Among the great mass of constructive work performed during this period must be mentioned the initiation of the movement for the reform of the Law of Ancient Lights, upon which subject Mr. Hare possessed expert knowledge.

The records of the Institute show that Mr. Hare, during his term of office, took the chair at more than 150 meetings and other functions connected with the Institute. The tremendous strain of this work, willingly and enthusiastically as it was undertaken, must have told severely upon his health, and no doubt hastened his end. Yet he would not have had it otherwise, his first thoughts being ever for the welfare of the Institute. In his death the R.I.B.A. have lost one of their oldest, most respected, and most distinguished members.

Mr. Hare's work was strongly individual in character,



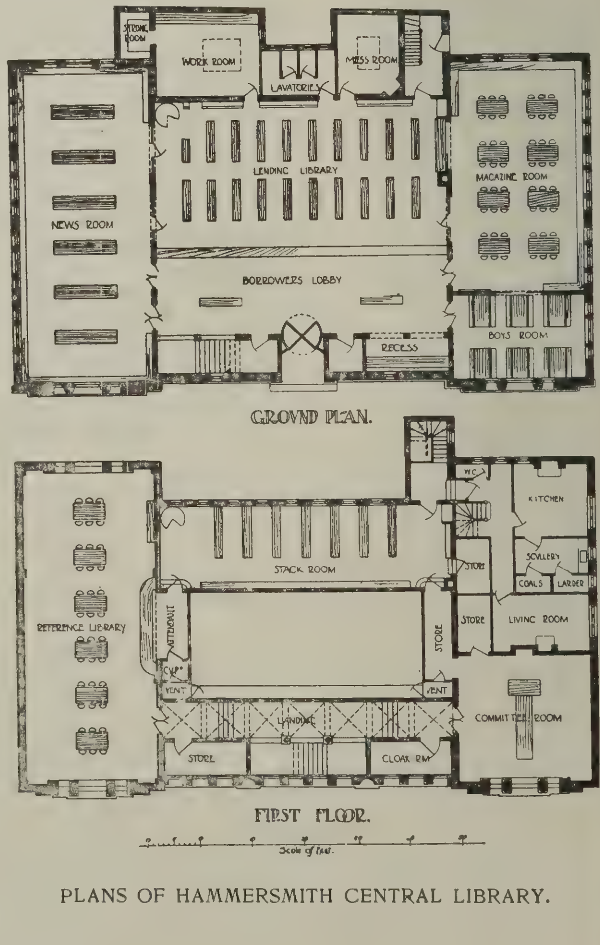
THE CENTRAL LIBRARY, HAMMERSMITH. THE LATE HENRY T. HARE, F.R.I.B.A., ARCHITECT.

and followed no particular style or phase of traditional architecture. He began to practise at a time when "individualism" and "free-Classic" were the watchwords, and his work is naturally of the kind produced during a transitional period. If Mr. Hare soared to no great heights as an artist, he was an extremely capable planner; and it is mainly for their practical merits that his buildings command our admiration.

Henley Town Hall, erected in 1898, is a typical instance of the individual manner in which he interpreted the classical style. His bent was obviously towards free renderings of Renaissance models, for there is not the slightest trace of the academic in his work. Though by no means a Gothic enthusiast, he attempted essays in that manner, notably at Bangor University, the internal treatment of which building, however, is somewhat nondescript in character, being a peculiar mingling of classic and gothic elements. The Central Library at Hammersmith, erected in 1903, is one of the best of his library buildings, the plan being admirable in its simplicity and directness.

Mr. Hare, though practising by himself for the greater part of his career, worked in collaboration at various times with other architects, notably in the cases of Liverpool Technical School and Museum Extension (with Mr. T. Davison); the Public Library, Shoreditch (with Messrs. Spalding and Cross); Bromsgrove Isolation Hospital (with Mr. H. R. Lloyd); and Cradley Health Isolation Hospital (with Mr. A. T. Butler). For about two years prior to his death he had worked in partnership with Mr. Bertram Lisle.

[We are informed that Mr. Hare's practice will be carried on by his partner under the title of Henry T. Hare and Bertram Lisle, at 2 Gray's Inn Square, W.C. —EDS. A. J.]



PLANS OF HAMMERSMITH CENTRAL LIBRARY.

Architectural Causerie: English Libraries

LAST week I ended my brief gossip about libraries in general with a few words about the Library of the British Museum. Other famous libraries of the early nineteenth century include that of the London Institution in Finsbury Circus by Brooks, that of Lincoln's Inn by G. Philip Hardwick, and the library of University College designed by Professor Donaldson, who first held the chair of Architecture in that college.

* * *

The library at Blenheim Palace, designed by Sir John Vanbrugh, measures 183 ft. in length by 31 ft. At Heythorp the library measures 83 ft. by 20 ft. by 20 ft., and it is of interest to note the large scale of the three libraries designed by Robert Adam. At Luton Hoo, in Bedfordshire, Robert Adam gave a dimension of 144 ft. for the total length of five rooms en suite to hold 25,000 volumes, no mean collection for those days. At Lansdowne House, Berkeley Square, the library measures 105 ft. by 30 ft. by 25 ft. three rooms en suite. At Caen Wood, built for the first Lord Mansfield, the library measures 58 ft. 6 in. by 22 ft. by 25 ft. 6 in. All these designs are illustrated in Adam's famous book.

* * *

In discussing English library architecture, one is bound to consider the period that made possible the public libraries of succeeding times. We regard the early years of the eighteenth century in literature as the age of good sense, but as yet the need for libraries accessible to the public had not become apparent. In the days of Defoe, of Addison, Steele, and Swift, when Fielding wrote and Richardson dabbled in novel-writing in the intervals of attending to his printing presses in Salisbury Square, the print shops of Fleet Street, of Paternoster Row, of St. Paul's Churchyard, and the Strand, supplied the public demand for literature. Jacob Tonson's shops at the Judge's Head, near the Inner Temple Gate in Fleet Street, and at Gray's Inn Gate in Gray's Inn Lane; and the shop at the Sign of the Dial and Bible against St. Dunstan's in Fleet Street, formed the centre of interest to the good citizens of London and visitors from the country from 1699 to 1730. At a later period we come across the famous print shop kept by Robert Sayer. The year 1730 marks the time when both architects and authors who had made the early "classic" school in England had vanished from the stage, or had ceased active work. We approach the time when Samuel Johnson had entered the lists, when Gibbs, Flitcroft, James, and Ware undertook the buildings of the Kingdom, when Burlington acted as patron-in-chief to the arts, when England was ruled by the second of the Georges. Classicism in art and literature at this date had become completely naturalised.

* * *

There is one peculiarly strong note about the classicism of the eighteenth-century building—it was always tempered by a humane sense of proportion, and, until the latter days, by a dislike of pedantry. The main stream of mid-eighteenth-century literature, helped through by the activities of publishers and booksellers, led eventually to the introduction of the circulating library, not only in the metropolis, but at fashionable resorts, such as Tunbridge Wells and Bath. The publication of the prose periodical essay, due to Joseph Addison and Richard Steele, followed by Fielding's "Tom Jones" and Samuel Richardson's "Clarissa" and "Sir Charles Grandison," firmly established the circulating library. Finally, at the close of the eighteenth century, every town in England possessed a circulating library of sorts, and these institutions became a feature at such places as Scarborough and Margate, and, during the Regency, Brighton. Hall's Library at Margate, built in 1795, was a remarkable establishment. There it was possible to purchase novels or to borrow books. The show-cases displayed Sheffield plate and Waterford glass, and the sashed windows held well-shaped toys from Birmingham. Thomas Malton evidently enjoyed making a drawing of this library, judging from his published aquatint. There are two examples of the circulating library of the late period still standing in Bloomsbury, with the old books still on the shelves. At the time of the Romantic Revival in literature, when certain architects displayed a tendency for design in semi-Gothic architecture, some of the best specimens of classic taste in the form of news-rooms were erected in towns as widely apart as Liverpool, Bristol, and Plymouth. I must just mention the Athenæum at Liverpool, the Plymouth and Cottonian Library at Plymouth, and the reading-room at Bath, built by Wilkins, but there were many others too numerous to recall.

* * *

The early nineteenth century witnessed the introduction of the subscription library, especially in provincial towns. There is a good example of this type at Bedford, and there is another at Exeter. To this period also belong the libraries attached to private societies, generally consisting of lofty reading-rooms, with glazed wall-cases stretching from floor to ceiling, with an intermediate gallery, approached by a small circular staircase. The British Museum contains many such apartments. Such rooms are usually lit from the top by a circular lantern. And so through the first half of the nineteenth century the tradition of the private and the semi-private library was maintained until the development of mechanics' institutes brought about further changes.

* * *

While on the subject of libraries forming part of professional societies, I should like to mention the magnificent collection of architectural books at No. 9 Conduit Street, the home of the Royal Institute of British Architects; the library of the Royal Institution in Albemarle Street; the library at the Zoological Gardens; and that of the Royal College of Surgeons in Lincoln's Inn Fields.

* * *

In the late eighteenth century, every doctor, lawyer, architect, and county squire could boast a miniature library. From the arrangement of Sir John Soane's house in Lincoln's Inn Fields we can form some idea of the taste of the successful architect of that day. For the more ornate private library we can turn to Napoleon's study at Malmaison.

* * *

The library at Kettering is a typical example of good planning, although the elevation leaves much to be desired. English architects have been responsible for some remarkably direct plans, suitable for small public libraries, which are too well known to be referred to here; the chief features being the regard paid to circulation, and the open access system.

* * *

Here I must pause to pay a tribute to the late Mr. Henry T. Hare, who has just passed away from our midst. It is not my intention to give here a critical estimate of his life, character, and work. That will be done, I have no doubt, in another part of this issue. My present concern is to recall the enormous influence he had on the planning and construction of public libraries. By intensive study of the subject in all its aspects, he became the highest architectural authority on library construction, and was himself the author of many excellent examples in this kind. AERO.

Human Nature in Industry: A Psychological View

3.—Why Do We Work?

By E. J. G. ALFORD, M.A. (Cantab.)

In this, the third of the series of articles in which Mr. Alford essays to elucidate certain industrial problems, the reasons of distaste for work are analysed. This distaste the author shows to be unnatural. It proceeds, he holds, from lack of interest. Thence he draws the inference that the motives for activity discovered in the child at play would energise the work of the adult, because he would then do it willingly, taking pleasure and pride in it.

EVERY child is endowed with creative instincts. Parents have been aware of their manifestations since historic time in the experiments carried on by their tiresomely active offspring with work-baskets, mustard-pots, coal-scuttles, the kitchen utensils, and all the wonderful apparatus of the home with which things can be done. It has been the achievement of the present generation of educationists to invent, or begin to invent, material of such a kind that the delight of the child in activity, creation, invention, and discovery may be satisfied without the traditional disastrous inroads upon domestic harmony.

Some progress, too, has been made towards recognition of the fact that abstract learning, learning from books and by assimilation of the ready-made knowledge of the teacher, must be preceded by, and be made subservient to, learning by experience in the instinctive processes of manual creation. We demand from the child a type of activity to which it must grow, and we omit the essential intermediary steps.

The consequence of this dual process of the repression of the child's instinctive acquirement of power over materials, and of the demand for a form of precocious mental activity, is a dulling of intellectual ability and of interest in creative labour by habitual discouragement and resentment developed throughout the years of tutelage to parental and educational authority. Habitual, notice; because the process is neither logical nor conscious. No child nor man can be reasoned, nor can reason himself, into putting his "heart" into his work. By conscious effort he may put his *will* into his work; but if "heart" (or interest) and will do not operate together, there is a loss of efficiency by divided attention and by fatigue in the manner referred to in my last article. The only method by which an acquired habitual distaste for labour can be counteracted is by the corrective experience of labour associated with pleasure, and the organisation of an environment adapted to this end will be among the first interests of any far-sighted employer.

Effect of Environment

Reference to educational psychology is by no means inconsequent in the consideration of the social psychology of industry, because the employer, though he may have no interest in nor connection with the education of his operatives, is, in fact, continually faced with problems arising directly out of the psychological environment of their up-bringing. Reaction to the environment of adult occupation is largely determined by unconscious prejudices and sentiments towards vocation formed during the years of childhood, and wisdom will look to increased efficient attention to work, not in a heightening of the negative incentives of duty or of anxiety and fear, but in the removal of habitual resistances from the natural instincts of creation.

A large-scale employer in the engineering trade, speaking recently to a labour audience, asked them to believe that in his honest opinion the work of the majority of men in his position was not the acquirement or extortion of wealth, but the pleasure of achievement, of doing a job well, and of getting a job well done. With a reservation on the superiority-inferiority sentiments discussed in these articles last week, I had no difficulty in believing him myself, nor in endorsing his opinion. But I had grave doubts as to whether I could persuade the men to whom he referred that the same motive was potential in the operatives they employed, could the habitual resistance to its activity be broken, instead of heightened, by the conditions of their employment.

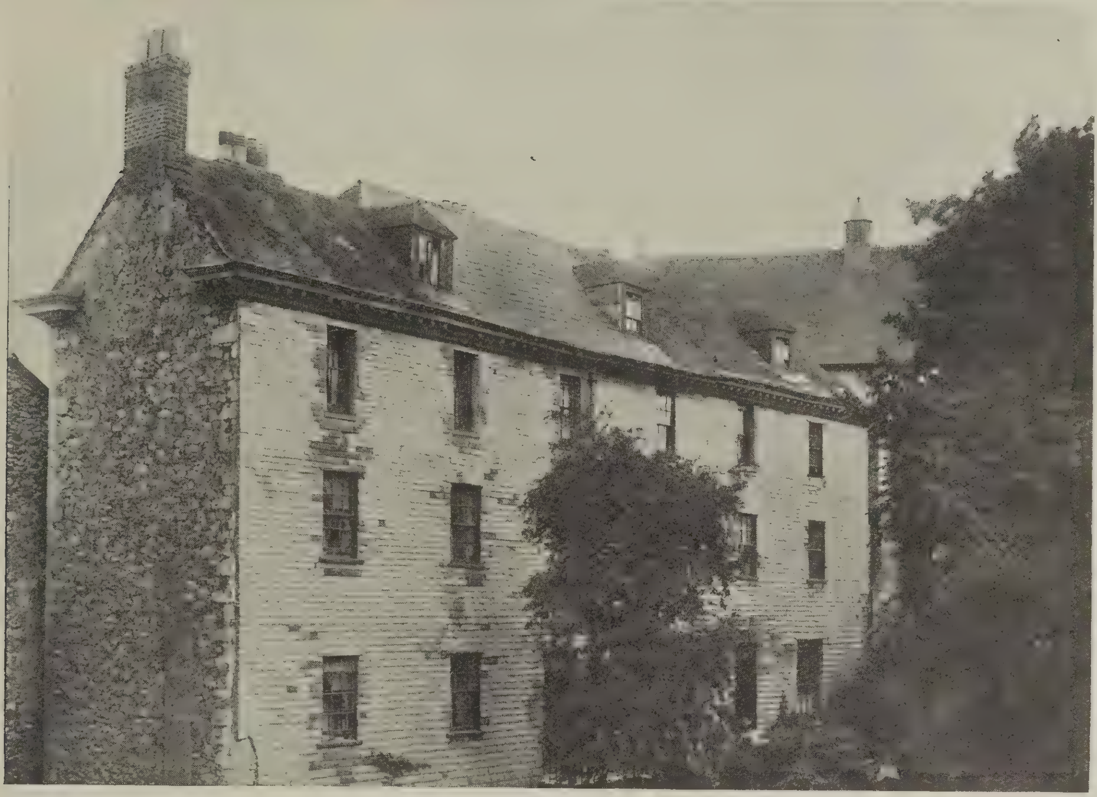
Notice the incentives and resistances to work in children. The desire for achievement, first of all; the pleasure of being able to do. Next, curiosity; the delight of knowing how and why things are. And, lastly, preceding and during adolescence, companionability; the pleasure of co-operation to a common end. These and like statements will probably be met with incredulity. Whoever reads them has children of his own in whom, clearly, such motives do not function. To which the correct, if unsparing, reply is that the average parent knows no more of the mind of the child than of that of the Chinese—or of his own. This, again, can only be taken on trust or rejected as ridiculous by anyone not personally acquainted with the methods and results of modern psychological research.

Results of Educational Experiment

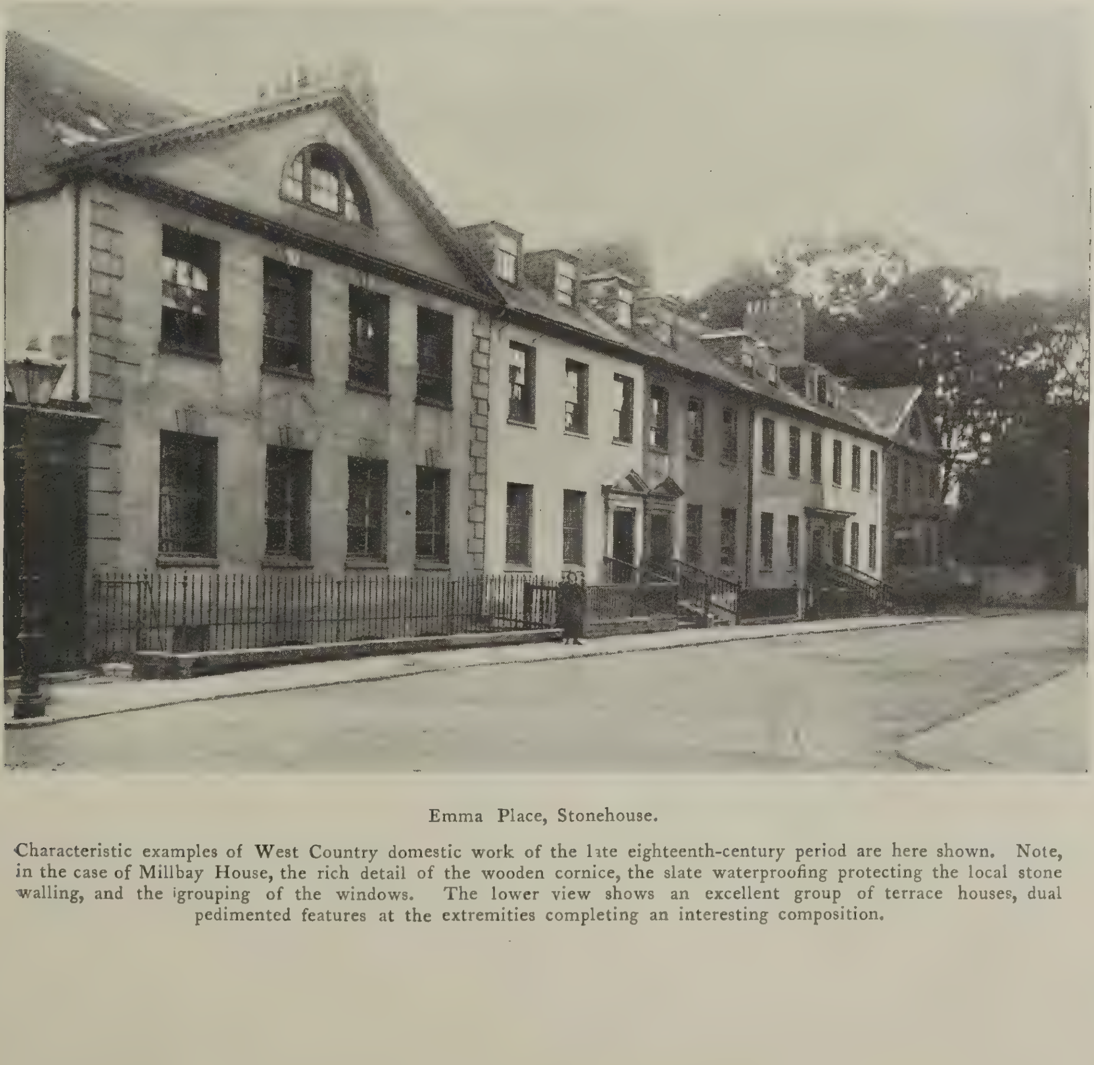
In spite of incredulity, the motives enunciated are those mainly by whose recognition educational experiment is achieving the happiest results. Instead of seeing in the manual aggressions of the infant only a perverse desire to interfere and destroy, which must be suppressed, we realise an instinctive effort towards the control of material, the embryonic elements of all creative activity; and we provide for it suitably to its own end. Instead of evading an idle inquisitiveness about (to us) inconsequent or too consequent matters, we see that the child requires to know of things touching on and arising out of the actions and reactions of its immediate environment; that interest and curiosity begin at home, and must be satisfied at home before they can normally be extended to past ages and distant lands. Instead of insisting on unaided individual labour on a purely competitive basis, we recognise that children work willingly in companionship, and that the co-operation which formerly was possible only in the secretive guise of cribbing, or in games, or in delinquent gang-formation, can be turned to creative purposes. We begin to see that our discipline has been arbitrary and blind; that we create delinquency, apathy, and untrustworthiness by the environment we supply, and that the correction of these habitual attitudes by fear of punishment can only change their conscious manifestations, not their nature.

The tragedy of education is also the tragedy of industry. For in the great majority of cases the repressive tutelage of the schoolroom is merely exchanged for a similar tutelage in the workshop, counting-house, or yard. Again, we demand from the apprentice or the operative submission to a discipline which must gall the innate impulse of self-determination. Again, we demand from him a task for which we offer no reason but our own imposing power. And again we supply no scope for psychological co-operation but in a league against ourselves, as boys will conjoin to evade the will of an unpopular master, or to "rag" the weak and unwary.

Architecture of the Late Eighteenth-Century. 10.—Some Devonshire Examples



Millbay House, Plymouth.



Emma Place, Stonehouse.

Characteristic examples of West Country domestic work of the late eighteenth-century period are here shown. Note, in the case of Millbay House, the rich detail of the wooden cornice, the slate waterproofing protecting the local stone walling, and the grouping of the windows. The lower view shows an excellent group of terrace houses, dual pedimented features at the extremities completing an interesting composition.

But the position now is more acute. If the desire for a voice in the control of our own destinies is keen at twelve or thirteen, it is one of three things at twenty or thirty. Either it is repressed to an effete submission, a valueless apathetic mediocrity, or it is latent in a constant irritability at the minor disabilities and disciplines of circumstance, or it is obsessively conscious and red-hot at danger-point to the community. The tentative sentiments and prejudices of childhood and adolescence are now hardened to unresponsive convictions and deep-seated habits of mind. Conflict which once was external between the child and his environment has become subjective, so that the power of synthetic interest and self-application in ordinary circumstances is lost. Few people are capable of realising unaided what their desires and dissatisfactions are based on. And this applies with double force to the collective desires and demands of a group.

Agitation, for obvious reasons, has centred almost exclusively on the purely economic side of industry. Yet in my opinion it would be a fatal mistake if the practical answer to the workers' demands were to be confined to, or, at least in the minds of the employers, mainly stressed in, the economic sphere. For as long as labour is habitually regarded, as it now is, only as an uncongenial economic necessity imposed by the material conditions of life, no change of system, no increase of wage for, nor of restrictive power on the part of, the worker can do more than throw industrialism from one frying-pan to another, with perpetual risk of the fire.

The world's work cannot be conducted indefinitely on such a basis. It is too exhaustive by internal strain of the energies of mind. And the transformation of industry into something other than a scramble for pickings can only be achieved, as I have elsewhere stated, by a larger realisation of what interest can imply.

The motives to work which can be released in the child at school must also be released in the adult in his vocation. Much ability, much keenness, is probably irretrievably lost in any individual. Habits of mind, inculcated with the thoroughness of our traditional educational system in impressing childhood with the dullness and uncongeniality of intellectual effort, and of all kinds of " work," can hardly be completely dispelled. But we can at least dissociate ourselves from the arbitrary task-setting of school and invest the labour of the operative with the interest that industrial vocation possesses for ourselves. Countless workers are trained to the performance of a single function in a complex process of production and distribution without ever having the opportunity of understanding even what final end their operation serves. They may be engineers' operatives working on one part of an elaborate machine, of which they are ignorant even as to where and how their product is assembled. They may be clerks dealing with the figures and mechanisms of exchange, of which they appreciate nothing but the ledgers of their own entering. They are not interested to know. That may be. But it is essentially an artificial attitude of mind. Given the outlook on " work " (the association of the mere word is enough) that results from the educational environment of childhood, is it conceivable that interest should be stimulated or maintained in the industrial environment that follows? Can it reasonably be expected that there should be any "heart" in a labour so devoid of significance beyond the resultant payment of the daily or weekly wage?

There may be circumstances in which secrecy of process, of rate of production, or of method of distribution is essential, as in the case of new types of war material. But such circumstances are few. The occasions on which they occur in the building trades are certainly negligible. Of all classes of industry those connected with architecture and building offer the greatest variety of interests to those engaged in any one branch. No other industry contains so potentially liberal an education, nor so easy an opportunity for the cultivation of professional pride.

The employer may object that it is not his business to educate, nor to undo the mischief of a faulty education for which he is not responsible. To which the reply is that no education ever began or ended in a school; that life itself is a continuous process of education, good or bad; and that anything is his business which affects his firm, his industry, and the conditions of industry as a whole.

A more particular consideration of ways and means I shall leave aside till next week, only pointing out now that in the group-sentiment, reinforced by individual interest in productive labour, the excavator and the bricklayer may share with the plasterer, mason, carver, or metalworker, even with the architect himself, the pride of achievement of good or noble building.

PARK CRESCENT, REGENT'S PARK, LONDON. JOHN NASH, ARCHITECT.

From a drawing, dated 1828, by T. Hosmer Shephera.
]

Industrial Fatigue and the Remedy*

By CHARLES S. MYERS, M.D., Sc.D., F.R.S.

We have no satisfactory definition and no satisfactory test of fatigue. If we define fatigue by its effects, by the diminished quality and quantity of work done—we confuse it with mere boredom, and we neglect the fact that in certain conditions fatigue may temporarily be accompanied by increased output, owing to deficient higher control and to abnormal nervous excitements. For these reasons, output is not a really satisfactory criterion of fatigue. Yet at present no better criterion is available. Various fatigue tests have been proposed and tried, but none of them can be said to be really adequate for industrial application.

"Getting Going"

In industrial life, a very small disturbance in the methods of work is found to bring about a striking loss in the practice previously acquired. Take a person away from his work for a few minutes and then let him return to it. As is well known, he needs a short time to "get going" again. What is lost is clearly something different from the practice which comes from experience. The effects of such a brief respite may be compared to the growing cold of an engine allowed to rest. Man likewise needs "warming up" to his work. The inefficiency that occurs after such a brief period of rest is due to the loss of what has been technically termed "incitement."

When work is resumed after a longer rest, there occurs not only the loss of incitement (i.e., the need for "warming up"), not only the loss of practice (i.e., the decrease of manipulative or mental skill), but also the loss of a further factor which may be usefully distinguished as "settlement." "Settlement," as its name implies, consists in settling down to the environment and conditions of the work, e.g., in becoming adapted to, and so coming to neglect, disturbing noises and other distractions, or in becoming attuned to the sequences and rhythm of movements or of mental operations which he has to carry out. The absence of "settlement" is responsible for the well-known "Monday morning effect." It occurs among those who have spent the week-end restfully as well in those who have spent it in dissipation. The absence of settlement is also evident after a holiday. We must bear in mind that no one, even with the best will in the world, puts forth his maximal power of work. Our muscular or mental capacity seems always to be held in restraint; our reserve powers are inhibited by higher control. In certain circumstances this higher control is itself fatigued or inhibited. Therefore, occasionally in conditions of fatigue, an increased amount of work may be performed. Or owing to extreme excitement due to emotional states, or as the result of increased interest, or of increased effort, there may be a temporary spurt. Two such spurts have been recognised in the laboratory investigations, the one occurring at the start of work, the other as the work is known to be nearing its end. These "initial" and "end" spurts, as they have respectively been termed, may occur quite involuntarily.

Initial spurts are inevitable and end spurts do little harm; but intermediate spurts, especially when they follow annoying and worrying delays, are to be deprecated. They are apt to be succeeded by periods of reduced activity.

The conditions of industrial work are incomparable with those of long-distance running, in which maximal efficiency may be attained by uniform speed. A mechanical dead-level of factory output throughout the day is surely unrealisable in the light of the worker's increasing demands for greater responsibility and for better opportunities of self-expression. Unconsciously man regulates his output according to his mental condition and according to his conditions of work. Discontentment inevitably spells diminished production. Reduction in hours of work almost invariably increases the hourly output. This does not necessarily mean previous ca'canny or restricted production. Man unconsciously distributes his day's expenditure of energy according to the length of his day's work. If the working hours be shortened it takes many weeks, in some cases many months, before the full beneficial effect is attained. So long a period of adaption affords fairly convincing proof of its unconscious character.

We have also to bear in mind the play of individual differences, and to recognise their vast importance. Some persons are more readily prone to spurts, some more easily lose the incitement or settlement they have acquired, than others. Some work "best in short explosive 'bursts,' others in longer, steadier spells."

Industrial Automata

The importance of rhythmical movement in preserving uniformity of output is unquestionable. It tends to reduce the worker towards the level of an automaton. Provided that the work be not too strenuous, and provided that the automatic attitude can be maintained, efficiency remains unchanged for long periods. But the willingness to become an automaton, to spend one's life mechanically feeding a machine with a sheet of metal, adding up meaningless columns of figures, sweeping and cleaning the same rooms week after week, year after year, is becoming rarer, owing to the spread of education and as a result of the recent war, together with the spirit of discontentment and unrest to which they have given rise. In preserving the necessary favourable attitude for work, we may depend on unconscious factors—habits—or on conscious factors—interests. The automaton is a creature of habits; the modern worker tends to demand interests. Whether work be carried out mechanically through mere habit, or purposefully through definite interests, the appropriate attitude has to be maintained. To maintain an attitude favourable to a given work means to repress the development of other attitudes less favourable or unfavourable for that work. In other words all conflicting mental systems must be held in check. Untoward thoughts must be inhibited; and physical work is necessarily expended in such inhibition or repression. At first, whether through habit or interest, this process of repression or inhibition is unconscious. Later it can only continue by voluntary effort. Finally, voluntary effort becomes fatigued, and boredom now already on the scene makes its presence more and more felt as interest has waned. Distracting thoughts are no longer under control. The mental system tends to disorder. Worry follows in the wake of contested boredom; and no cause of mental inefficiency is so potent as worry, whatever be its origin. It is inevitably accompanied by a wasteful dissipation of mental energy. The various conflicting mental systems, hitherto inhibited, now inhibit the regular orderly activity of mental work.

Muscular Fatigue

It is hardly surprising, then, that with reduced hours accidents tend to become less numerous. But accident rate is also dependent on output; the smaller the output the less the exposure to risk, i.e., the fewer the accidents—other things being equal. In the case of muscular fatigue, the results are partly due to an auto-inhibition. That is to say, the muscle itself sends nervous impulse up to the spinal cord, the final effect of which is to prevent impulses originating in the brain from throwing that muscle into further contraction. The impotence which finally ensues when a single finger joint is successively contracted and extended, lifting a weight, as in the ergograph experiment, appears to be due to such auto-inhibition. But the muscle itself does not seem to be fatigued; at all events, it is not exhausted. For if an electric current be applied immediately to the motor nerve supplying that muscle the latter will at once contract. So it will voluntarily—indeed a fresh ergogram can be obtained—if the weight lifted be slightly reduced. But in ordinary life we do not use our muscle as the single muscle is employed in the ergograph. We make successive use of a variety of muscles when a given movement has to be repeated. As one muscle tires, we help or replace its action by invoking the aid of another muscle. Hence, such auto-inhibition plays a secondary rôle. We have also to take into consideration the consumption of material manufactured by the muscle for use during each contraction, and the waste-products that arise from such consumption. A muscle may be regarded as storing up explosive material which is fired with each contraction. Probably this material in any muscle is never, save in quite exceptionally severe conditions of exhaustion, entirely consumed. What is far more important is the removal of the waste products of muscular metabolism, first from the muscles themselves, secondly from the body as a whole to which they are borne in the blood and lymph stream. Their presence acts inimicably on the activity not only of the muscular system but of the other bodily tissues, including the nervous system.

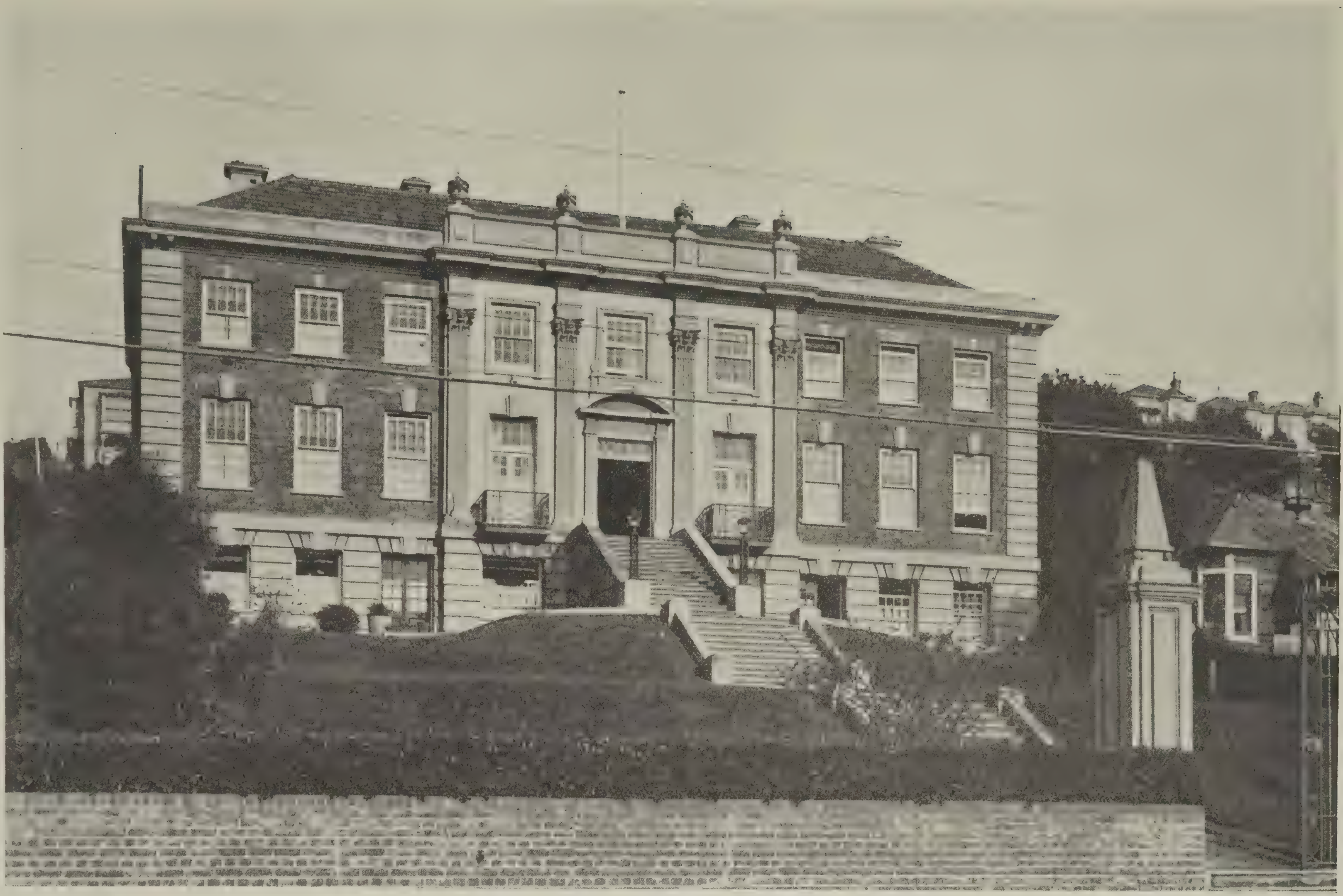
Needless muscular activity is therefore to be avoided in all kinds of industrial work. Seating accommodation, appropriate foot rests, and the abolition of stooping, increase the efficiency of the operatives' work. Numerous instances could be quoted where the output has also increased through improvements in ventilation, lighting, noise, vibration, temperature, etc. Adaptation helps mankind to neglect such unfavourable conditions; but man works

---

* Extracts from a paper read before the Royal Society of Arts. Dr. Myers is Director of the Psychological Laboratory and Lecturer in Experimental Psychology at the University of Cambridge.

Current Architecture. 55.—The William Booth Memorial Building, Wellington, New Zealand

Stanley W. Fearn and the late Austin Quick, Architects.



An excellent example of current Australasian architecture, showing the influence of English eighteenth-century tradition. Note the strength imparted by a horizontally rusticated basement storey and the effect of support produced by wide quoins similarly treated. The brickwork of the wings contrasts effectively with the stonework of the central feature, with its appropriate pilaster treatment.

generally better in the absence of the need for such adaptation.

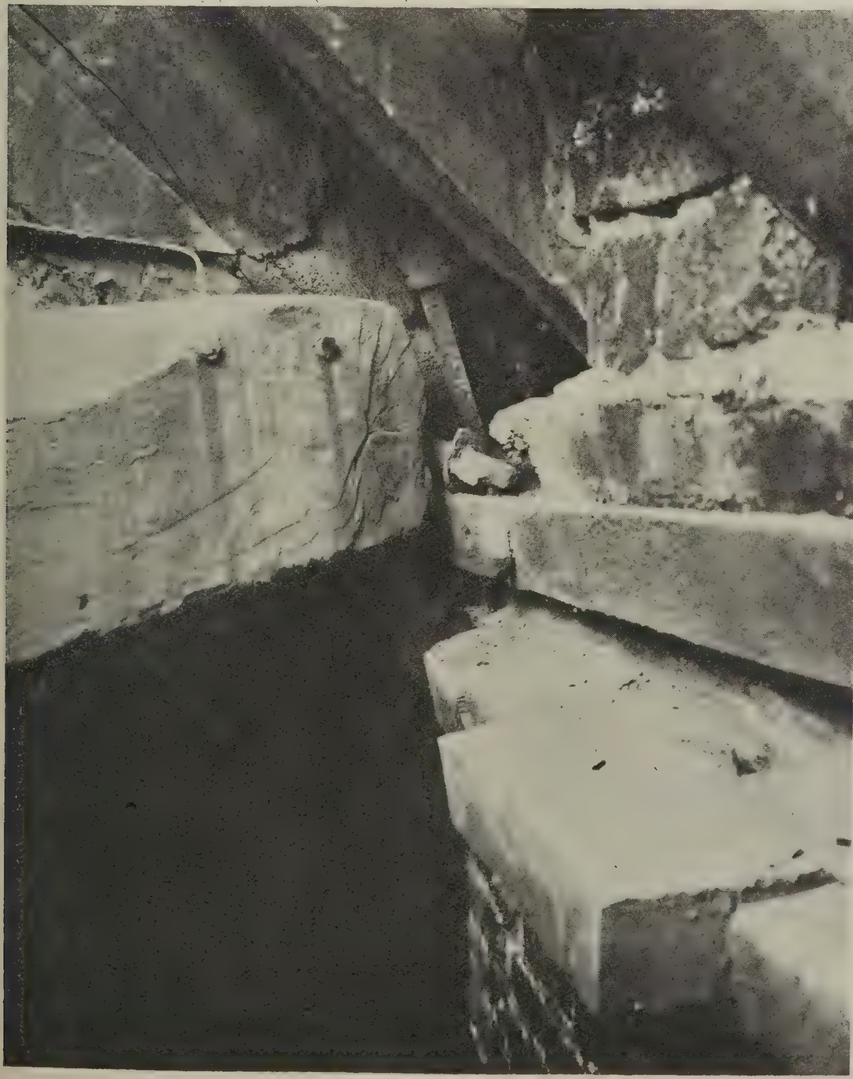
Finally, industrial fatigue is reducible by systematic selection of those who are mentally and physically best fitted for the particular work required of them, and by careful investigations into the best arrangements of material and with the best "short-hand" methods of performing that work, followed by systematic instruction of those who are to be employed on it. The old methods of "trial error" are now obsolescent, alike as regards the enjoyment of workers and as regards their picking up the methods of their work. Tests for vocational selection are being universally adopted. The scientific study of the workers' movements is being systematically undertaken. The relation of output to improved distribution of hours of work and rest is being widely investigated. For these and cognate purposes we have in this country an Industrial Fatigue Research Board, actively carrying out enquiries on behalf of the Government for the industries as a whole, and the new National Institute of Industrial Psychology, established by voluntary support, making similar impartial scientific investigations for the benefit of individual industrial and commercial firms and their workers. The work of these two bodies cannot fail to promote industrial contentment and to remove the various adverse conditions comprised in the term "Industrial Fatigue."

Restoration Work at St. Mary Abchurch

Up to the present St. Mary Abchurch has escaped the threat of demolition which hangs over so many of Wren's City churches. It has, however, been for some time in great jeopardy of collapse owing to the rotten condition of its worm-eaten timbers. But for the timely decision of the rector and wardens to call in professional assistance the roof would certainly have fallen, destroying for ever the magnificently painted dome of Sir James Thornhill.

All architects will readily appreciate the difficulties involved by the removal of decayed main roof timbers, without causing the least crack in the painted plaster of the dome. The great dragon-tie, 12 in. square by 29 ft. long, at the north-west corner, which supported a portion of the curb carrying the dome, was found to be in a very dangerous condition. The illustration shows that the end of the beam had entirely rotted away, thereby losing its support on the wall. The feet of the principal rafters also were worm-eaten and decayed. As both ends of this dragon-tie were in a similar condition, its weight was suspended by an iron strap from the king post above it, and thus the whole combination of timbers formed an additional load on the roof instead of acting as a support to it.

There was no alternative but to undertake the hazardous task of removing the dragon-tie and inserting another. This was successfully accomplished without in any way impairing the decorative work of the church. Most of the beams have now been sprayed with formalin, and sufficient ventilation for the roof has been effected. The architects, Messrs. George Hubbard and Son, have successfully accomplished a work of restoration requiring much technical ingenuity and boldness in execution. Messrs. F. Smith and Co. were employed as contractors, and to them is due the credit of having carried out the work, which, but for their care, would have resulted in the loss of the famous dome and perhaps the church itself.



DRAGON-TIE IN THE DOME OF ST. MARY ABCHURCH, SHOWING DECAYED CONDITION.

Society of Architects

Work of the Past Year

Sir Charles T. Ruthen, O.B.E., the President of the Society of Architects, in presenting the annual report of the Council at the annual general meeting held on Thursday last, was able to report progress in every branch of the Society's many activities during the year ended October 31, 1920. The membership, which has increased considerably, and is now between 1,500 and 1,600, has been sub-divided, and the entrance examination scheme reorganised, in connection with which and with the Victory Scholarship and other competitions, the Society offers annually prizes of the total value of £362. The Society's premises have been enlarged so as to provide better accommodation for students of the First Atelier of Architecture, founded by the Society in 1912, which is one of a group of Royal Academy Ateliers since formed for the purpose of coordinating advanced architectural training on Beaux Arts lines.

The Society has continued to urge upon local authorities and members of Parliament the necessity for encouraging private enterprise in building more particularly as a means of stimulating the production of houses in connection with the national housing scheme, and for opposing restrictive building legislation by the Ministry of Health, with whom the Society has also been in personal touch on these matters and on others relating to the professional interests of architects.

Action has been taken by the Society to uphold the provisions of its code of professional ethics where necessary, and get unsatisfactory architectural competition conditions amended, and in other ways to protect the professional interests of its members and also to assist them by advice on point of practice under the advisory and defence regulations.

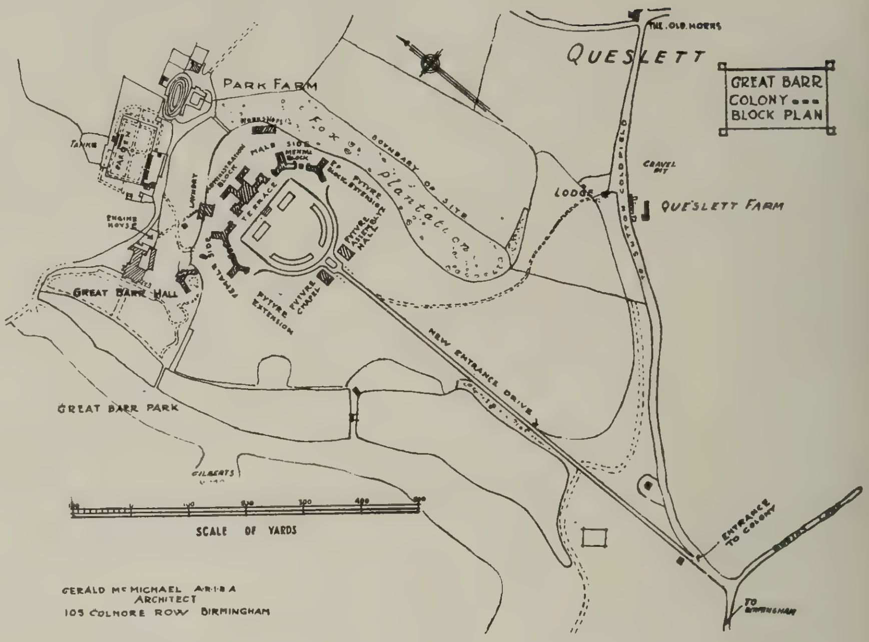
Although the Society's income and assets have considerably increased, a deficit on the year's working was foreseen owing to the obvious impossibility of meeting constantly rising post-war costs on a pre-war income basis, and the members readily agreed to an increase in the subscriptions to meet further requirements and to provide for further developments.

One of the features of the Society's activities is its readiness to use the facilities provided by the Press for ventilating questions and disseminating news of public interest, and during the year statements emanating from the Society have appeared, on an average, every day in one or other of the principal newspapers and professional journals in this country and overseas. This has been found to be of mutual advantage, as the Press and the public have been quick to recognise the Society as a source of information on professional matters, and the Society has, through the courtesy of the Press, been able to stimulate public interest in architecture and demonstrate the position which the architect holds as a servant of the public in the scheme of national service.

One great aim of the Society is to accomplish, in the interests of the public, the statutory registration of architects, and in this direction a distinct advance has been made by the formation by agreement between all the architectural bodies of an "Architects' Unification Committee" charged with the important task of finding some means of amalgamating or federating the various architectural bodies with a view to proceeding with a registration scheme supported by the whole profession, and it is not without significance that the chairman and the vice-chairman of that committee are the respective presidents of the R.I.B.A. and of the Society.

A new, interesting, and successful departure in connection with the Building Exhibition at Olympia in April, 1920, was the organisation by the Council of the Society, by the courtesy of the director, Mr. H. Greville Montgomery, of an "Architects' Club" and the holding of a number of conferences and social functions, all having the object of bringing about a closer and more friendly relationship between architects, master builders, operatives, manufacturers, building owners etc.

The fact that the Societv held ninety-two meetings during the year, of which seventy-five were Council and committee meetings, ten members' meetings, and seven public meetings, is some indication of the amount of time and attention which the members of the Council are called upon to devote to administering the affairs of the Society.

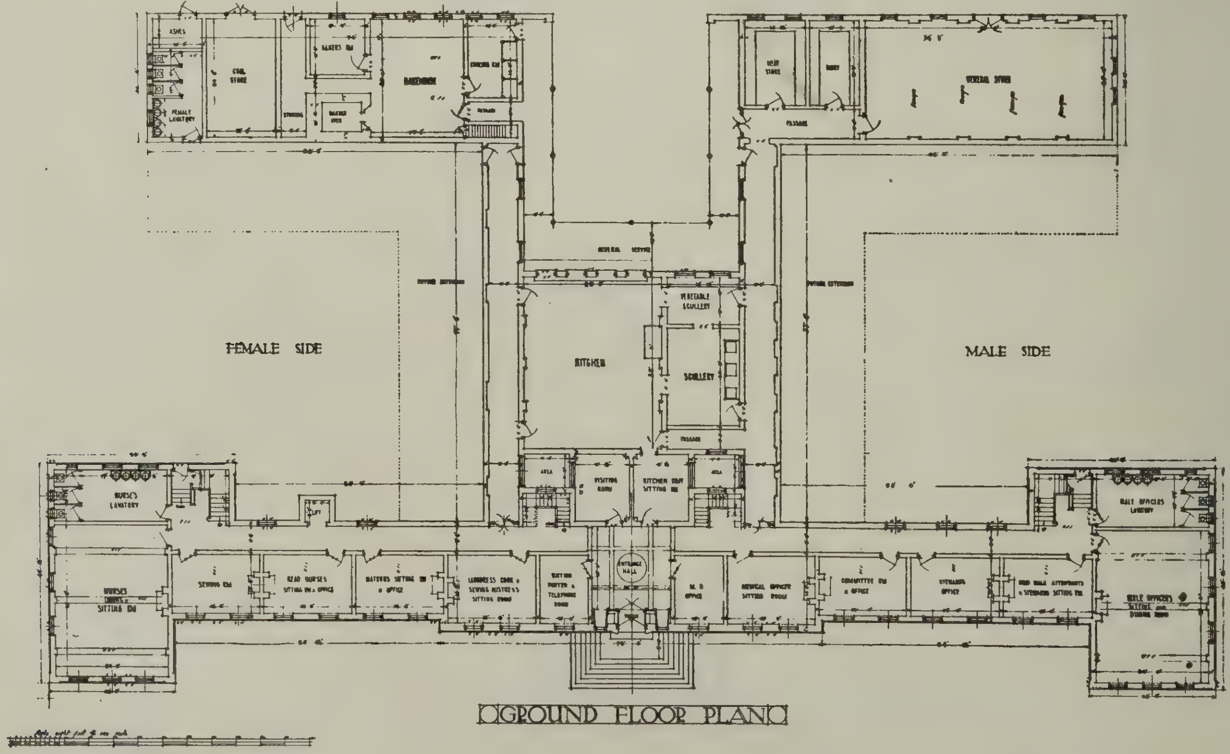


Great Barr Colony for Mental Defectives

Great Barr Park is situated on the declivity of the lofty Barr Beacon, and the mansion known as Great Barr Hall is centrally situated in the park, which originally consisted of about 450 acres. This estate was purchased in 1911-1912 for the purposes of a mental defective colony under the control of the Walsall and West Bromwich Unions Joint Committee.

The hall was renovated and opened for the reception of Poor Law children by Sir Arthur Downes in October, 1912. A sanatorium was erected in a portion of the park known as the French garden in 1913, and in 1914 a contract was entered into with Messrs. Kendrick and Son, of Walsall, builders, for the erection of the first four blocks of the colony, which consisted of two blocks two storeys high for mental defectives and two single-storey blocks for epileptics. Two of these blocks were completed and occupied in January, 1918, and the other two blocks, which are placed on each side of the central administrative block, are now completed with the exception of the floors and heating, which are being proceeded with.

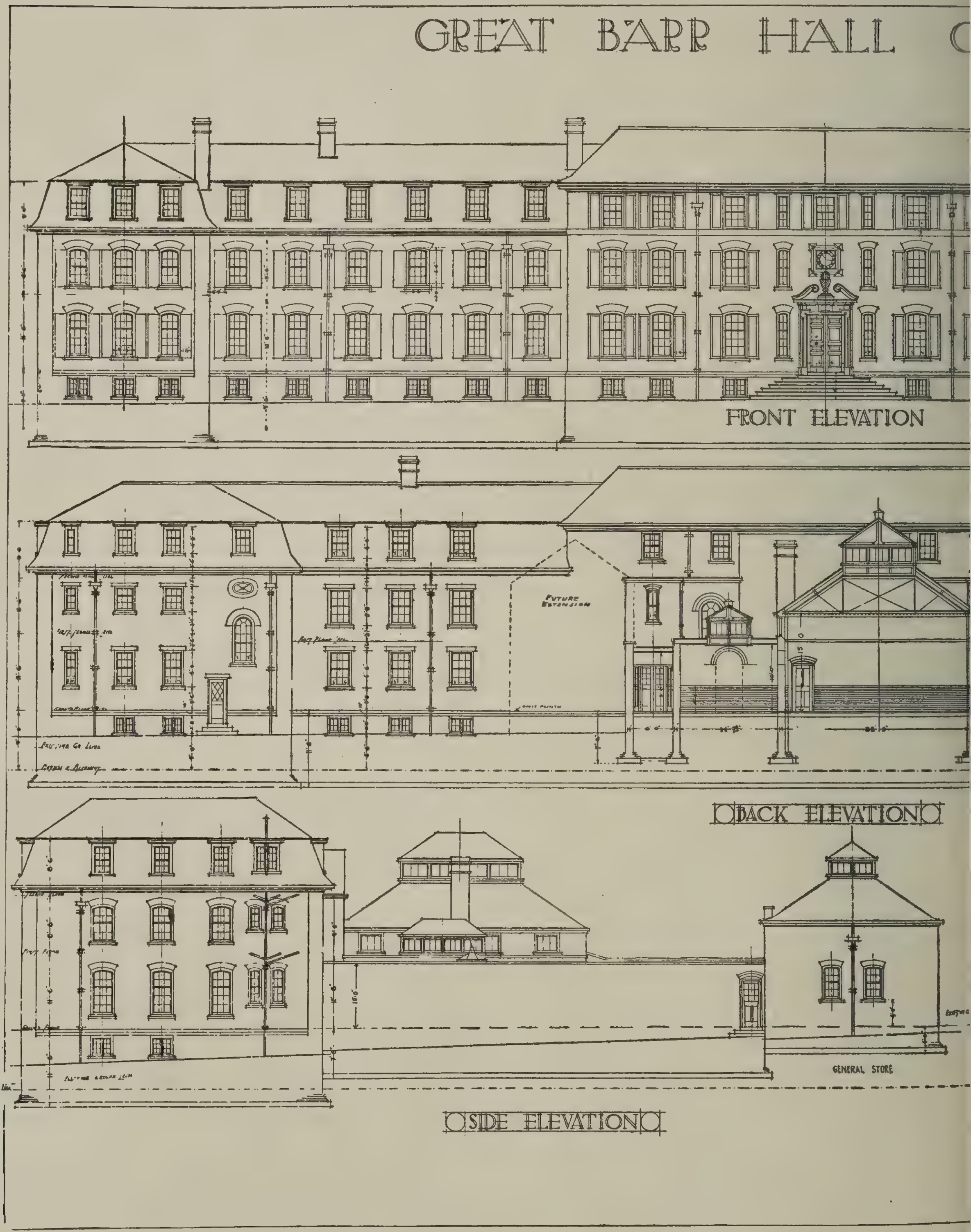
The remainder of the scheme, stopped by the war, consists of the administrative engineering, workshop, and laundry blocks, the positions of which are indicated on the block plan, which also shows the general lay-out and the entrance road,



COLONY FOR MENTAL DEFECTIVES, GREAT BARR, NEAR BIRMINGHAM: GROUND FLOOR PLAN.
GERALD McMICHAEL, A.R.I.B.A., ARCHITECT.

Architects' Working Drawings. 25.—Colony for Mental I

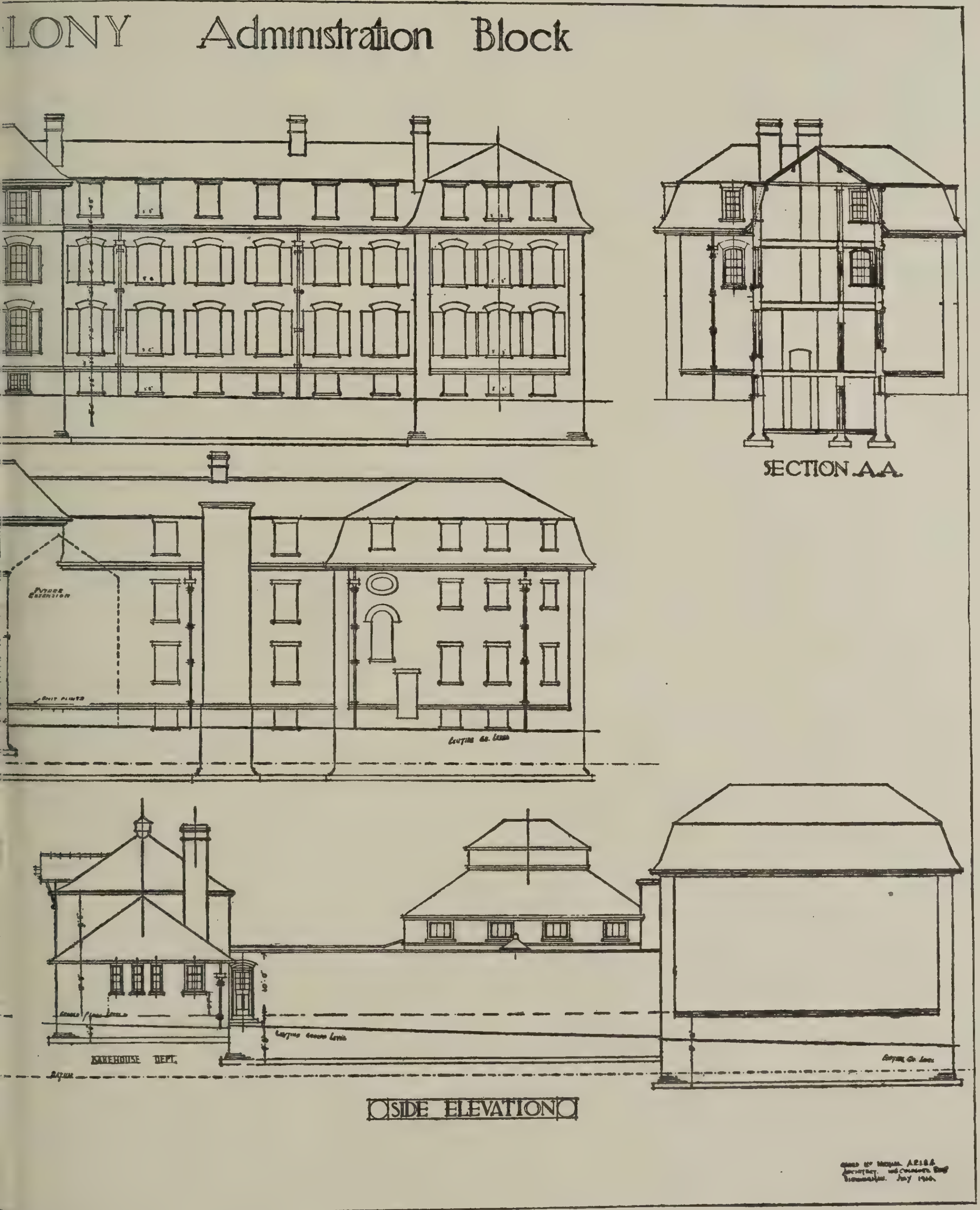
Gerald McMichae



Particulars of this large and extremely interesting scheme, of which
are given on page 72 of this issue. Further

ectives, Great Barr, near Birmingham : Administration Block

.R.I.B.A., Architect



elevations and sections of the administration block are shown above,
ations will be published in subsequent issues.

which has been partially made. The scheme is laid out on broad lines with a view to considerable future development. At the junction of the main entrance drive with the circular drive a group of white horse chestnut trees has been planted, and it is proposed to lay out the circular enclosed space as a sunk garden with a wide terrace in front of the administrative block. Up to the present, York stone pitch-faced screeds have been used for the whole of the external walls, and Westmoreland slates for the roofs. The architect for the scheme is Mr. Gerald McMichael, A.R.I.B.A., of Birmingham, and Messrs. Edwards and Shaw, of Birmingham, have acted as consulting engineers for the heating and electrical work.

Book Notices

A Book of Bungalows.

It might have been supposed that the inherent interest of bungalows would be insufficient to warrant the making of a book about them. "The Book of Bungalows," however, has appeared, and its contents prove that the subject does not lack variety. It deals not only with the planning and design of bungalows, but also with their equipment, the details of which will probably be of more real use than those of design and construction. There is also rather more variety in the details than there can be in the designs, although these naturally vary with taste, requirement, and situation; for a bungalow for the countryside will have features varied from those of the riverside or seaside building, and the examples shown reveal a rather surprising difference in materials and treatment.

Five chapters deal respectively with planning and design, methods of construction, equipment, furnishing, and the conditions under which the Government subsidy can be claimed. Thereafter follow some three-and-thirty examples of bungalows that have been put up in various parts of the country—mainly in the southern counties, although Sheffield and Birmingham are represented, the former by a building constructed of clinker concrete made from waste material from furnaces and boilers. The Birmingham bungalow represents an attempt to solve the housing question; but, all things considered, it would appear that bungalows are by no means cheaper than cottages. There is no doubt, however, that this handy little book serves a distinctly useful purpose.

The Book of Bungalows. By R. Randal Phillips. London: Offices of "Country Life," Ltd.; and George Newnes, Ltd. Price 8s. 6d. net.

High Costs and Building.

The constant changes in the prices of raw materials, wages, and cost of production generally are having far reaching effects on all post-war architectural and building work. In planning to-day the architect has to pay far greater attention than has ever been paid before to producing a compact building free, in many cases, from the "luxuries" commonly included in the past, and every possible economy, such as reduction in the sizes of rooms, etc., and the substitution of one building material for another, has to be seriously considered. Externally, the buildings are being treated with greater simplicity, with a sparing use, if not entire absence, of ornament. In estimating the cost of building work, the price-book is of course indispensable, and in that under review the whole of the prices have been revised and augmented to accord with market values at the time of going to press, but owing to the constant fluctuations the editor, Mr. Clyde Young, F.R.I.B.A., advises confirmation of the prices in every case by the manufacturers and merchants. Under these conditions the "Constants of Labour" embodied in the book are of more than usual value, and reasonably reliable estimates can only be made by using these in conjunction with actual and current prices of materials and rates of labour. The price-book, which can be carried in the pocket, is fully indexed, and any information can be found and referred to in a moment. E. R.

Spons' Architects' and Builders' Pocket Price-Book, 1921. Edited by Clyde Young, F.R.I.B.A. Forty-seventh edition. E. and F. N. Spon, Ltd., 57 Haymarket, S.W.1. Price 6s. net.

A Practical Pocket Book.

The essential information with regard to building regulations, materials, and trades has become so immense in bulk and so complicated in detail that every day doubts arise on some vital point which in many cases necessitates reference to innumerable text-books or memoranda. Any pocket-book, therefore, dealing with matters not to be found concentrated elsewhere is sure of a ready welcome. The pocket-book under review, which has reached its third edition, meets this condition in a concise and practical way. Each of the building trades is dealt with individually, and information on special subjects, such as brick clays, factories, English and Scottish methods of measurements, preservation of timber, etc., is given under separate headings. Great care has been exercised to include all official regulations which affect the carrying out of building work and also to summarise modern requirements in respect of the construction of factories. The book, which should prove invaluable to anyone connected with the building trade, is arranged in alphabetical order with extensive cross references and a complete table of contents. E. R.

Spons' Practical Builders' Pocket Book. Edited by Clyde Young, F.R.I.B.A. Third edition. E. and F. N. Spon, Ltd., 57 Haymarket, S.W.1. Price 10s. 6d. net.

A Triumph of Archæology

The lecture delivered at the R.I.B.A. on Monday last by Mr. H. Chalton Bradshaw, first Scholar in Architecture of the new British School at Rome, was illustrated by an exhibition of the drawings which he prepared for his "Restoration" of Praeneste. These drawings are the most important fruits of Mr. Bradshaw's tenure of the great scholarship at Rome, and it is hardly an exaggeration to say that no more beautiful and skilful drawings have been produced by an architectural student in our generation. They fairly hold their own with the productions of the famous holders of the "Prix de Rome" of the French School in the Villa Medici. Many leading archæologists were present at the lecture and the occasion was a tribute to the far-sighted and public-spirited policy of the founders of the new British School, which is destined to have an enduring influence on the future of British architecture. By a pleasant coincidence the chair was occupied by Mr. John W. Simpson, new President of the Royal Institute, to whose pioneer work many years ago the idea of the foundation of the school was really due.

R.I.B.A. Council Meeting

At the last meeting of the Council of the R.I.B.A. the following business was transacted:

Bristol Society of Architects.—The Council approved of proposals laid before them by the Bristol Society of Architects for the reorganisation of the society and the widening of the scope of its activities.

Scale of Fees for Housing.—The Council agreed to co-operate with the Council of the Surveyors' Institute in negotiating with the Ministry of Health in regard to the agreed scale of fees for housing work.

Retired Fellowship.—The following Fellows were transferred to the Retired Fellowship Class: Messrs. C. Löhr (A. 1878, F. 1906); G. D. Oliver (A. 1877, F. 1892); Edwin Seward (A. 1876, F. 1889); and John Wynne (A. 1875, F. 1878).

Reinstatement.—Mr. W. A. Gagnon was reinstated as a Licentiate.

Annual Dinner, 1921.—It was decided to hold the annual dinner of the Royal Institute early in the year, and a committee, consisting of Sir Banister Fletcher, Mr. Wm. Woodward, and Mr. Arthur Keen (hon. secretary), was appointed for the purpose of making the necessary arrangements.

Professional Defence.—The Council have decided to re-submit to the general body the scheme for the foundation of a professional defence union, which was laid before a special general meeting on June 15, 1914.

Correspondence

Architecture and the Public

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The letters which have appeared in your Journal on the above subject are signs that architects are awakening to the necessity of educating the public to a fuller appreciation of the "Mistress Art." You will be interested to know that the western branch of the South Wales Institute of Architects has arranged a series of free public lectures on architectural subjects to be given at the Royal Institution of South Wales, Swansea, with the object of quickening interest in and appreciation of architecture. The Institute has arranged with the Swansea Scientific Society that these lectures shall form part of a series of weekly lectures which that body promotes each winter. By amalgamating in this way it is hoped to reach a larger public than would be the case if they were given independently.

The first lecture was given on January 4, when Mr. Percy Thomas, A.R.I.B.A. (Cardiff), addressed an appreciative audience on "Greek Architecture." Mr. W. S. Purchon, M.A., A.R.I.B.A. (Cardiff), lectures on February 1 on "The French Achievement in Architecture," and on March 1 Mr. J. Alfred Gotch, F.R.I.B.A., F.S.A., will lecture on "Domestic Architecture of the Eighteenth Century."

Such lectures cannot fail to do good, and will benefit the profession by stimulating public taste. It is hoped that other architectural societies will follow this lead.

J. HERBERT JONES,

Hon. Sec., South Wales Institute of Architects, Western Branch.

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters.

Answers to enquiries are in all cases the work of experts; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur.

Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given.

Examination questions cannot be answered.

It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication.

Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Building Trade Wages.

W. S. D. writes: "Where can I obtain a copy of a wages award made by the South-Eastern Conciliation Board, September 3, 1919?"

—From the secretary of the London Master Builders Association, 48 Bedford Square, London, W.C.

Fellow of the Royal Geographical Society.

H. B. R. writes: "What procedure is necessary to become a Member or Fellow of the Royal Geographical Society?"

—A candidate for election as a Fellow of the Royal Geographical Society must be proposed and seconded by two Fellows of the Society. Forms of application and full particulars may be obtained from the Secretary, Lowther Lodge, Kensington Gore, S.W.7.

Finishing Floors.

P. J. writes: "Can you give me any information on the various methods of painting or staining floors?"

—Plainly finished floors, without any covering other than rugs, mats, etc., have long been popular and their hygienic value recognised. The best finish of such floors, however, is but little known. The amateur usually uses spirit varnish and stain combined, which is about the worst thing that could be employed for the purpose. It is difficult to apply because it evaporates so quickly; therefore it is almost impossible to obtain uniformity. After very little time it wears off in patches and presents a very slovenly appearance. A much better plan is to use permanganate of potash, dissolved in water. This gives a variety of pleasing browns, and their surface when dry may be either finished with a special floor-varnish or wax-polished. Sizing is necessary before the varnish or polish is applied. This sizing often consists of powdered glue, dissolved in hot water, and of which two coats should be given. A better material, however, is gold size, added to about twenty times its bulk of turpentine. Instead of permanganate of potash black japan may be employed, and this gives even a better result. The japan is thinned with a considerable quantity of pure American turpentine, and yields a variety of browns. If desired, any colour may be added so as to produce sombre blues, reds, greens, etc. This colour should not be added dry, but should be purchased ground in turpentine. But the best thing of all to use for floors is the modern style of floor paints. These are made in a number of different colours, and they are easily applied, have remarkable wearing properties, and resist the action of water. The surface should be sized preferably with the mixture of gold size and turpentine above-mentioned. All inequalities and cracks should be filled up, and two coats of the floor paint be given. A suitable filler for the cracks between the boards can be made by mixing white lead, ordinary putty, and paper pulp, in equal proportions, to which is added a little boiled oil. The paper pulp is produced by placing some white paper —unprinted—in water, allowing it to soak thoroughly, then mashing it up into a pulp.

Considering the very high price of linoleum, oilcloths, and other floor coverings of these times, the production of a really good wearing quality of floor paint is a most satisfactory development.

A. S. J.

Gloss, Semi-flat, and Flat Finishes.

F. S. writes: "Please give me a few practical hints on the most suitable finishes to adopt in externally and internally decorating a house."

—Many people object to the high gloss which is the result of the application of a good varnish to oak or other woodwork, or even to painted work. It emphasises inequalities and even if the surface is fairly level it is likely to have what has been described as a "treacly" effect. It may be taken as a safe rule that a highly gloss surface should never be used on old walls, because of the unevenness. Stippled effects give much better results, but probably better than all is the use of flat oil paints, which dry entirely without gloss and may be washed or scrubbed when necessary. As far as the woodwork is concerned, if it is natural wood such as oak, walnut, or mahogany, the usual plan is to French polish. This is wholly unsuitable for outside work, and of doubtful merit on the inside. It is brilliant for a time, but quickly loses its virtue. Hard wood which is exposed to the weather is best treated in the following manner. The pores of the wood should first be filled up with paste wood filler, thinned with turpentine; then, if necessary, a coat of scumble stain thinned with turpentine should be given, the object being to obtain a uniform colour, and of course any tint can be selected according to taste. After lightly sandpapering a coat of rubbing varnish should be given, and this should be rubbed down with powdered pumicestone and water. This being cleaned off, another coat of the same varnish should be given, and this should be treated as before. Then a third coat of the same varnish should be applied, and if the excessive gloss is objected to it should be rubbed down just as in the preceding cases, but a semi-gloss can be obtained by polishing the surface by means of rotten stone and linseed oil, which is easily done with the palm of the hand and is therefore called "hand-polishing." The effect is excellent; the surface lasts for a long time without needing any treatment whatever, whereas wax-polished finish requires a constant upkeep.

Interior woodwork may be treated exactly in the same way. Of course, semi-flat or flat finishes may be obtained by using flatting varnishes, but their use is not recommendable, because of their lack of durability.

A. S. J.

Rejection of Plans by a Corporation.

A correspondent sends us a set of plans, questioning the right of a corporation to disapprove them under the following by-law:

"Every person who shall erect a new domestic building which forms, or is intended to form, part of a block of buildings erected back-to-back, without any intervening space, shall provide in front of such building an open space, which shall be free from any erection thereof above the level of the ground, except any portico, porch, step, or other like projection from such building, or any gate, fence, or wall not exceeding 7 ft. in height, and which, measured to the boundary of any lands or premises immediately opposite, or to the opposite side of any street which such building may front, shall throughout the whole line of frontage of such building extend to a distance of 36 ft. at least, such distance being measured in every case at right angles to the external face of any wall of such building which shall front or abut on such open space.

"A person who shall make any alteration in or addition to such building shall not by such alteration or addition diminish the extent of open space provided in pursuance of this by-law in connection with such building."

"On the site," writes our correspondent, "is half a block of back-to-back houses, erected probably forty years ago. They should have been 18 ft. further away from my client's property (which is above eighty years old) when erected, to comply with the by-laws, but were not. Adjacent property is in a very bad state of repair, and I wish to pull it down and rebuild exactly on the old foundations, and extend the portion that is more than 36 ft. away from the back-to-back houses. Have the corporation power to disapprove of these plans under by-law indicated?"

—Under the by-law quoted the corporation have no authority to disapprove these plans in view of the facts that you do not propose any extension of the particular portion of the building adjacent to the back-to-back cottages, but merely a rebuilding of an existing structure on the existing foundations, and also that the air space to your client's property at the rear and to the front abutting on the High Street is in accordance with the by-laws. The corporation have no power to force your client to provide air space at the side of his property for the benefit of the adjoining owner. Your client's property does not come within the category of "back-to-back" houses itself, but virtually makes this term applicable to the cottages, which were erected after your client's property.

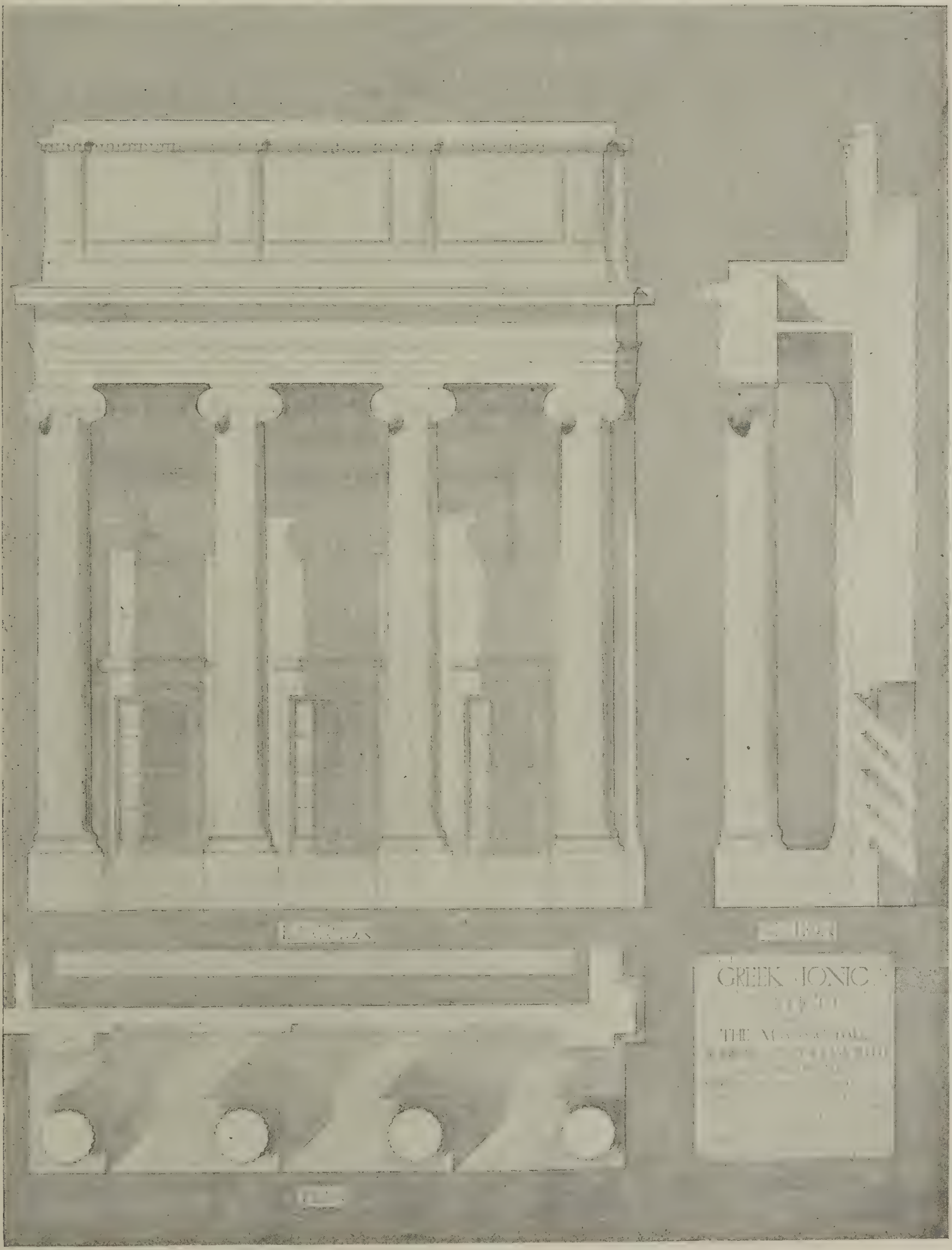
It is presumed that the height of the rebuilt portion is not increased over that of the existing building.

If the Town Planning Act has been adopted, and this building interferes with the corporation's proposals for dealing with this area, they would then have power to withhold consent to the plans under this Act, but not under the by-law quoted.

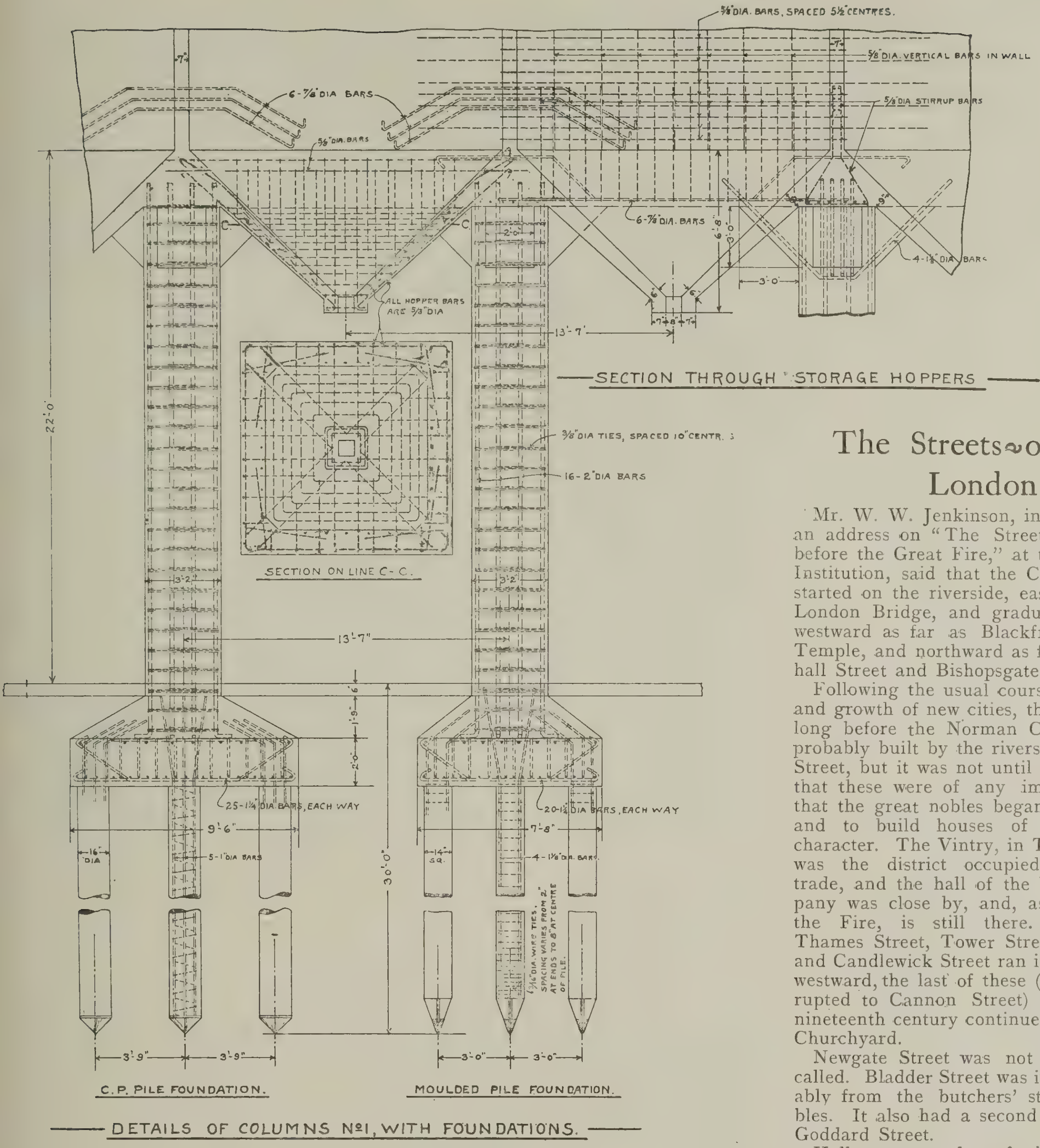
W. S. B.

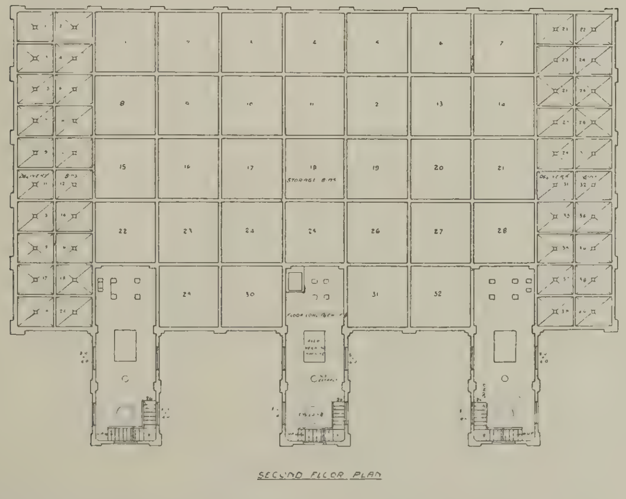
Measured Drawings. 6.—Portico of the Masonic Hall, Highbury Street, Portsmouth

Measured and Drawn by G. Norburn



An example of the Classic manner as interpreted in the provinces a century ago. The front is exceedingly appropriate to the purpose of a Masonic Hall. It is interesting to note that similar interpretations of Greek architecture made their appearance in America about the same period.


⅜" DIA. BARS, SPACED 5½" CENTRES.
⅝" DIA. VERTICAL BARS IN WALL
⅝" DIA STIRRUP BARS
6-⅞" DIA BARS
⅝" DIA. BARS
6-⅞" DIA. BARS
4-1⅛" DIA BARS
ALL HOPPER BARS ARE ⅜" DIA
13'-7"
3'-0"
6'-8"
5'-0"
SECTION THROUGH STORAGE HOPPERS
⅜" DIA TIES, SPACED 10" CENTR.
16-2" DIA BARS
SECTION ON LINE C-C.
22'-0"
3'-2"
13'-7"
1'-9"
2'-0"
30'-0"
25-1¼" DIA BARS, EACH WAY
20-1¼" DIA BARS, EACH WAY
9'-6"
7'-8"
16" DIA
5-1" DIA BARS
14" SQ.
4-1⅛" DIA. BARS
3/16" DIA. WIRE TIES. SPACING VARIES FROM 2" AT ENDS TO 8" AT CENTRE OF PILE.
3'-9"
3'-9"
3'-0"
3'-0"
C.P. PILE FOUNDATION.
MOULDED PILE FOUNDATION.
DETAILS OF COLUMNS No1, WITH FOUNDATIONS.



REINFORCED CONCRETE GRAIN SILO, DUBLIN: GENERAL PLAN AND CONSTRUCTIONAL DETAILS.

The Streets of Old London

Mr. W. W. Jenkinson, in the course of an address on "The Streets of London before the Great Fire," at the Surveyors' Institution, said that the City of London started on the riverside, eastward of Old London Bridge, and gradually extended westward as far as Blackfriars and the Temple, and northward as far as Leadenhall Street and Bishopsgate.

Following the usual course in the birth and growth of new cities, the first houses, long before the Norman Conquest, were probably built by the riverside in Thames Street, but it was not until Norman times that these were of any importance and that the great nobles began to live there and to build houses of a sumptuous character. The Vintry, in Thames Street, was the district occupied by the wine trade, and the hall of the Vinters' Company was close by, and, as rebuilt after the Fire, is still there. Parallel to Thames Street, Tower Street, Eastcheap, and Candlewick Street ran in continuation westward, the last of these (the name corrupted to Cannon Street) being in the nineteenth century continued to St. Paul's Churchyard.

Newgate Street was not originally so called. Bladder Street was its name, probably from the butchers' stalls or shambles. It also had a second name, Mount Goddard Street.

Holborn, as a place of private residence, was much sought after at the end of the reign of Queen Elizabeth. The Bishop of Ely's garden was a "Naboth's Vineyard" to the Queen, and she wrote a letter to him demanding a large slice of the land as a site for a house that Sir Christopher Hatton wished to build. The Bishop objected to give up land which was not his property. But he had to give way, and the street called Hatton Garden is a reminder of the incident.

Dublin Grain Silo

The interesting illustrations of the great new grain silo at Dublin, given on this and the following page, should be studied in conjunction with the article which appeared in our issue for January 5. Messrs. Bachelor and Hicks, of Dublin, were the architects, jointly with Messrs. Henry Simon, Ltd., of Manchester. The reinforced concrete work was designed and carried out by Messrs. J. and W. Stewart, of London, Dublin, and Belfast.

Trade and Craft

"Doriclite."

The General Electric Company, Ltd., of Queen Victoria Street, London, E.C.4, have issued an illustrated leaflet dealing with their "Doriclite" semi-indirect all-glass pendants. The object of these pendants is to make possible semi-indirect lighting in lofty premises or where a white ceiling is not available. This is effected by the introduction of an upper reflector constructed of similar material to the translucent bowl. In the "Doriclite" two-piece units the size of the reflector in relation to the bowl has been determined by scientific tests carried out with the view of ascertaining the proportions necessary for the attainment of maximum efficiency. The "Doriclite" units are made of "Equiluxo" (the "glass without glare") an onyx-like translucent medium of uniform density which transmits a perfectly diffused agreeable light and which is of ornamental appearance. The company have also issued an interesting coloured "sticker" showing in a simple manner the advantages gained by the use of the "Kingsway" telephone bracket. This bracket, which should have a place on every business man's desk, has a horizontally-collapsible arm which allows the telephone to be pulled towards the speaker.

London County, Westminster, and Parr's Bank, Ltd.

The net profits of the London County, Westminster, and Parr's Bank, Ltd., for the past year, after providing for bad and doubtful debts and all expenses, amount to £2,915,708. This sum, added to £414,226 brought forward from 1919, leaves available the sum of £3,329,934. The dividend of 10 per cent. paid in August last on the £20 shares and 6¼ per cent. on the £1 shares absorbs £557,651. A further dividend of 10 per cent. is now declared in respect of the £20 shares, making 20 per cent. for the year, and a further dividend of 6¼ per cent. on the £1 shares will be paid, making the maximum of 12½ per cent. for the year. £1,300,000 has been set aside for investment depreciation, £200,000 transferred to premises account, and £253,718 to reserve, bringing the reserve up to £9,003,718, leaving a balance of £460,914 to be carried forward.

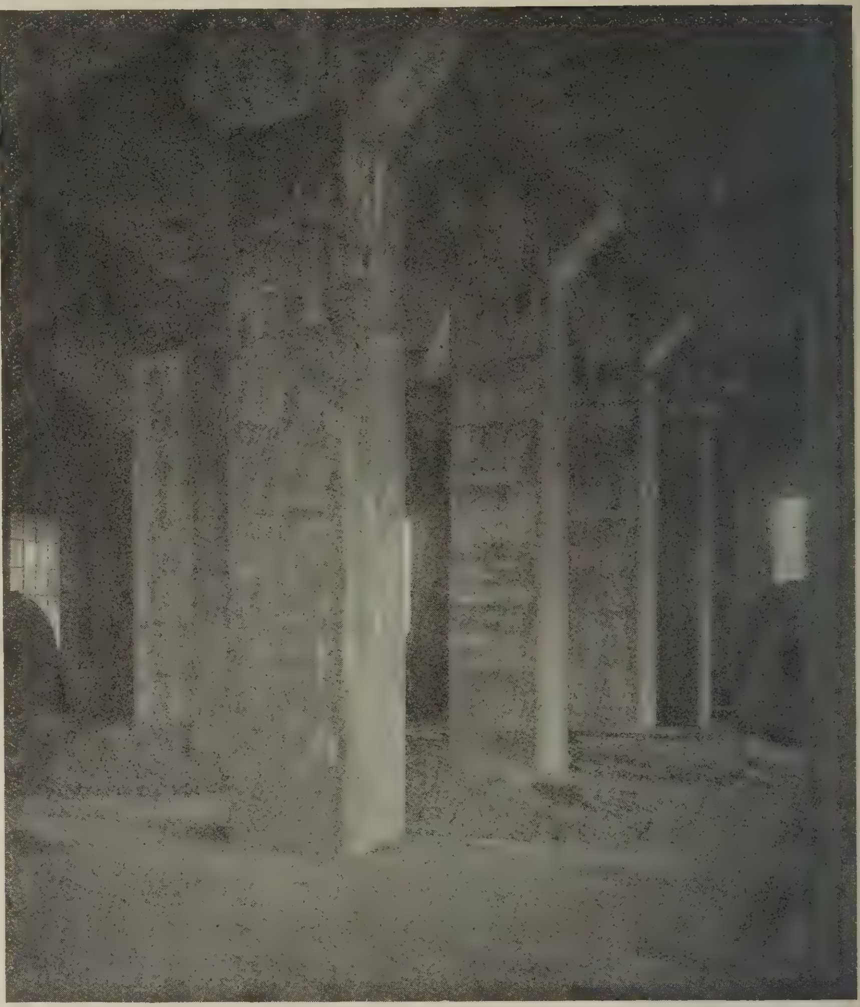
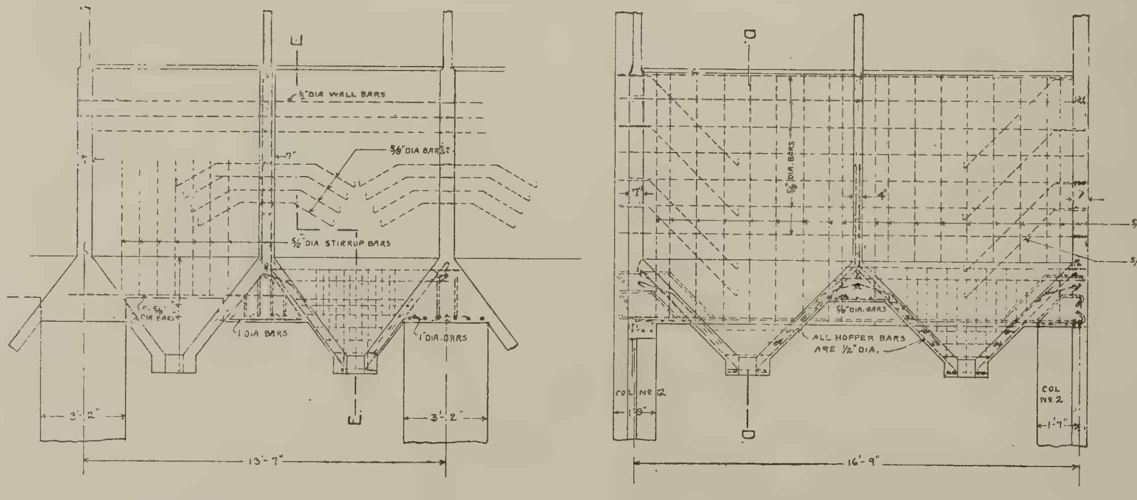


Photo: Geoghegan, Dublin.

VIEW IN REINFORCED CONCRETE GRAIN SILO, DUBLIN.

South Wales Home Exhibition

The South Wales Health and Home Exhibition, which opens on January 26 in the Drill Hall, Cardiff, will be the first housing exhibition to be held in Wales for many years. The exhibits will cover a large range, and include furnishing and furniture; lighting, heating, warming, and cooking; construction, sanitation, and ventilation; labour-saving devices, building decoration, etc. The band of H.M. Welsh Guards will render selections at the exhibition, which closes on February 5.



SECTION ON LINE D-D.

SECTION ON LINE E-E.

REINFORCED CONCRETE GRAIN SILO, DUBLIN: DETAILS OF DELIVERY HOPPERS.

The Week's News

Masonic Hall for Croydon.

Croydon Freemasons propose to erect a masonic hall and temple.

Keynsham Garden City.

Plans are being prepared for a garden city at Keynsham, Somerset.

Hemsworth Housing.

Hemsworth R.D.C. have ten schemes in hand, involving over 3,000 houses.

Housing at Deudraeth.

The R.D.C. have decided to apply for loans to purchase a number of housing sites.

Lincoln Housing.

An additional forty-five houses have been allotted to builders, making a total of 228 houses commenced.

Housing at Reading.

The Housing Commissioner has approved plans for fifty-six houses to be erected on part of the Norcot estate site.

Porthcawl Development Scheme.

A £1,000,000 scheme is afoot to lay out a new front and promenade, croquet lawns, and tennis courts.

Housing at Torquay.

Torquay T.C. have decided to erect fifty "B" type houses at Westhill at a cost not exceeding £966 per house.

Bourne Housing.

The Housing Commissioner has sanctioned the plans of the Bourne R.D.C. for houses at Corby and Morton.

Housing at Newbiggin.

The U.D.C. have agreed to borrow from the Public Works Loan Board a further instalment of £4,500 for housing.

Dawlish Housing.

The U.D.C. are negotiating to purchase land on the Pidgley Estate for erecting thirty-eight more houses adjoining the Exeter road.

Stanley Housing Loan.

The Ministry of Health have sanctioned the borrowing by the U.D.C. of £150,000 for the erection of houses at South Stanley.

New Baths for Scarborough.

Scarborough Corporation have decided to purchase the People's Palace and Aquarium as a site for medical and other baths.

Blackburn and Direct Labour.

The General Purposes Committee of the Blackburn Corporation have decided to arrange for the erection of forty houses on the Intack site by direct labour.

Girvan Housing.

Girvan T.C. have decided to borrow the sum of £83,308 to meet the cost of the erection of sixty workmen's houses in Girvan.

Building in Sydney.

Over 10,000 buildings were erected in Sydney and its suburbs during 1920. These, together with additions to existing buildings, cost altogether £9,273,659.

New Reservoir for Millom.

Millom U.D.C. have decided to erect an additional reservoir. It is estimated to cost £50,000, and will have a storage capacity of twenty million gallons.

Quantock Lodge as a Sanatorium.

Quantock Lodge, which the Somerset County Council has decided to purchase and adapt as a sanatorium for consumptives, is situate in the parish of Over Stowey. The mansion is of stone in the Elizabethan style. The amount paid by the Somerset County Council for the estate is £23,000, and it is estimated that an additional £33,000 will be required to adapt it to the requirements of an up-to-date sanatorium.

Llandudno War Memorial.

The conditions of this competition are now in order, and there is no objection to members of the Society of Architects taking part.

Housing at Hexham.

The first sod has been cut in connection with the housing scheme at Hexham. Sixty-eight houses are to be erected. The architects are Messrs. J. R. and L. E. Hetherington.

Housing at Kidderminster.

Kidderminster T.C. have accepted a tender for the construction of forty-eight houses on the Aggboro site. The Kidderminster scheme provides for the erection of 160 houses on this site.

Edinburgh's Housing Needs.

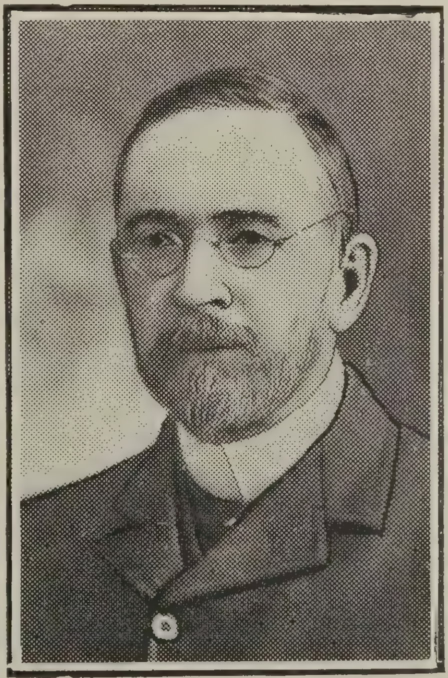
The Director of Housing proposes to carry on with 1,281 houses. Most of those are in the Edinburgh area, ninety-six in Leith, and seventy-four in the suburban district.

Death of Mr. Walter Pitt.

We regret to announce the death of Mr. Walter Pitt, of Messrs. Stothert and Pitt, of Bath, aged sixty-eight. He was an authority on cranes and other harbour equipment, in which he introduced many improvements, and in the manufacture of which his firm specialised. Mr. Pitt became chairman of Stothert and Pitt upon its formation into a company.

Ulster Architects' New President.

The new president of the Ulster Society of Architects, Mr. Robert Magill Young, M.A., F.R.I.B.A., whose portrait is reproduced below, is the son of the Right Honourable Robert Young, P.C. (1822-1917), who began practice as an architect in Belfast in the middle of the last century. Mr. Young is at present senior partner in the firm of Messrs. Young and Mackenzie (R. M. Young and J. R. Young, A.R.I.B.A.), of 2 Wellington Place, Belfast, who have designed many Presbyterian churches, insurance buildings, and hospitals in Ulster.



MR. R. M. YOUNG, M.A., F.R.I.B.A.
New President of the Ulster Society of Architects.

New Boulevard for Nottingham.

For the construction of a boulevard to connect Nottingham with Beeston, Sir Jesse Boot has offered £200,000. The boulevard will be two miles long and 150 feet wide.

Newcastle Housing.

Newcastle Corporation Housing Committee have entered into contracts for the erection of 215 houses to complete the Walker scheme, and have sanctioned fifty more concrete houses under the Kelly contract.

Housing Proposals at Halesowen.

Halesowen R.D.C. have given assent to the Office of Works carrying out the scheme for the erection of 200 houses, and have decided to apply to the Ministry of Health for sanction to the borrowing of £200,000 to defray the cost of the scheme.

Ashburton Housing Scheme.

Lay-out plans and house designs have been submitted to the Commissioner. The Council are applying to the Ministry for £600 to cover the cost of road-making, sewers, kerbing, and channelling, and architect's fees.

Nottingham Housing Progress.

In all 712 houses have been commenced. Of these eighty-six are occupied, 198 are nearly completed, and 327 have been roofed. On the Stockhill Lane site thirty-eight houses are completed, and 153 are nearly so.

The Duchy of Cornwall Estate.

Some two acres of the lands belonging to the Duchy of Cornwall in South London have just been disposed of. The site is in Stamford Street, S.E., and has been let on a building lease to Messrs. Boots, Ltd., who propose to erect a block of commercial buildings.

Alnwick Housing.

The foundation-stone of the first of the buildings in the Alnwick urban housing scheme has been laid. The scheme embraces 118 houses for the working-classes in the area of Swanfield Park Road.

Church Memorials.

Faculties for the erection of memorials to men who fell in the war have been granted by York Consistory Court to the church authorities of Selby Abbey and of the parish churches at Stamford Bridge, near York, and of Eskdaleside-with-Ugglebarnby, near Whitby.

Masonic Hall for Lancashire.

East Lancashire Freemasons have secured the site of the former Queen's Theatre at Manchester. On this will be built, when the restrictions are removed, a masonic hall, offices for the East Lancashire Masonic Benevolent Institution, and suitable rooms for the meetings of the various masonic bodies.

Grants to Private Builders.

In consequence of the rejection by the House of Lords of the Ministry of Health (Miscellaneous Provisions) Bill the Government will introduce legislation in order to provide for payments in full to private builders completing houses between

December 23, 1920, and the date of the coming into operation of the new Act, and to extend by twelve months the period during which the subsidy can be earned.

Glasgow and Municipal Brickworks.

Glasgow Corporation have decided to acquire, subject to the approval of the Scottish Board of Health, two brickworks at Dalry.

Housing at Greenock.

Approval has been given by the Board of Health to a further section of the Greenock Corporation housing scheme. The plans now sanctioned are for 108 three-apartment tenement houses and twelve four-apartment houses of the semi-detached cottage type.

King Edward's Gateway.

At Windsor Princess Alice, Countess of Athlone, has unveiled a bust of King Edward VII. (designed by Mr. Morley Horder, F.R.I.B.A., and erected by Sir Jesse Bott), and handed over a new gateway, to be known as "King Edward's Gateway," to the Mayor, as representing the town of Windsor.

Extension of Scottish Subsidy Period.

The limit of time to December 23, 1920, to which private persons erecting houses in Scotland may receive the Government subsidy has now been extended to December 23, 1921, by the Housing (Scotland) Act, which has just received the Royal Assent. The conditions prescribed by the Board may be obtained on application to them at 121a, Princes Street, Edinburgh, or at the offices of the various local authorities throughout Scotland.

Housing in Brackley.

Brackley R.D.C. have resolved to apply to the Public Works Loan Board for a further instalment of £10,000 on account of the Housing Loan of £60,000. The Council have also resolved that application be made to the Ministry of Health for sanction to borrow the following sums for housing purposes: For six houses at Croughton, £5,600; for eight houses at Helmdon, £7,630; for eight houses at Sulgrave, £7,700; for six houses at Whitfield, £5,600; for balance required on account of houses in course of erection, £5,550.

Society of Architects.

The Council of the Society of Architects have appointed Mr. Elijah Jones, of Hanley, to act as the Local Honorary Secretary for the County of Staffordshire. Mr. Jones has been architect to the Bucknall Hospital Board, Stoke-on-Trent, and Stoke Rural Joint Hospital Board for twenty-five years, and also to the North Staffordshire Joint Smallpox Hospital Board, whose hospital is at Bagnall, and has given special study to isolation hospital work. He is surveyor to the Staffordshire Potteries Economic Building Society, and has been a member of the Town Planning Conference held in London, and of the Architects' Congress.

A Christmas Party

The adjoining photograph shows the children of the employees of a well-known firm of building contractors, who were entertained at a Christmas party arranged by the firm's works committee. The evening included tea, a nigger minstrel troupe, and ventriloquial and conjuring entertainments. There was also a Christmas tree of fine fruitage, every child receiving a suitable and generous gift. We are indebted to Messrs. Higgs and Hill, Ltd., for the loan of the picture.

The Society of Architects' Victory Scholarship

This scholarship was instituted in 1919 by the Council of the Society of Architects to commemorate the services of members of the Society in the war, and to perpetuate the memory of those who fell. It is open to any British subject under the age of thirty-five years. The first "en loge" twelve-hour esquisse was held at the Society's Atelier on May 1, 1920, the subject being "The Great Doorway of a National Pantheon." The object of this programme was to ascertain the ability of the competitors to study the proportions and attributes of monumental architecture and to impart correct expression to the subject.

Twenty-five candidates competed and the jury of the Royal Academy Ateliers, Mr. Robert Atkinson, F.R.I.B.A., Professor A. E. Richardson, F.R.I.B.A., and Mr. Arthur Davis, F.R.I.B.A., nominated by the Council of the Society as assessors, selected ten of the candidates to sit for the final competition on June 5. This consisted of a twelve-hour esquisse, the subject being "A National Manufactory for the Production of Porcelain," the finished design to be completed within six weeks. The object of this programme was to test the ability of the competitors to grasp the possibilities of the scheme and to group the buildings harmoniously.

Nine out of the ten candidates competed in the esquisse, but only two of them completed their designs, the others being prevented from doing so owing to unforeseen circumstances arising over which the Society had no control. The Council therefore decided, in agreement with the competitors, to divide the 1920 final competition and the prize of £100, to duplicate the medal, and hold another esquisse and competition on October 9 with a different programme, open to all candidates who took part in the final competition on June 5. The subject of the additional competition was "A Lecture Amphitheatre forming part of a group of buildings housing Scientific Institutions." There were four competitors and their designs had to be submitted by December 13. The jury assessed the whole of the drawings submitted in both competitions and awarded the prizes as follows:

Competition A (Porcelain Factory) Design No. 5.—Mr. Trenwith Wills, A.R.I.B.A., 24a, Yeoman's Row, Brompton Road, S.W.3.

Competition B (Lecture Amphitheatre) Design No. 8.—Mr. F. P. M. Woodhouse, A.R.I.B.A., Southmead, Wimbledon Park, S.W.

The prize money (which by the terms of the competition is to be utilised for educational purposes) and the gold medals, were handed to the winners by the President of the Society, Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., at the annual general meeting on Thursday last, when the whole of the drawings were on exhibition. The members of the jury attended and gave a criticism of the designs, having previously reported that in their opinion the majority of the esquisses for both competitions displayed great merit and promise.

Mr. Trenwith Wills, A.R.I.B.A., the winner of competition A, received his architectural education at the Liverpool University School of Architecture, the Royal Academy Schools, and the Atelier of Mr. Fernand Billerey. He won in 1914 the Tite prize of the R.I.B.A. During the war Mr. Wills served with the Essex Yeomanry, and also in Egypt and Gallipoli in 1915. In 1920 he won in competition the awards for designs for the R.I.B.A. and the Royal Academy War Memorials.

Mr. F. P. M. Woodhouse, A.R.I.B.A., the winner of competition B, received his professional training at the Architectural Association Day Schools, which he entered in 1912. He won the second year Travelling Studentship in 1914, and the British Institution Scholarship in Architecture in 1915. Mr. Woodhouse was rejected for active war service and was for several years in the Technical Department of the Air Board. He afterwards entered the office of Mr. Robert Atkinson, F.R.I.B.A.

(For List of Competitions Open see last week's issue.)

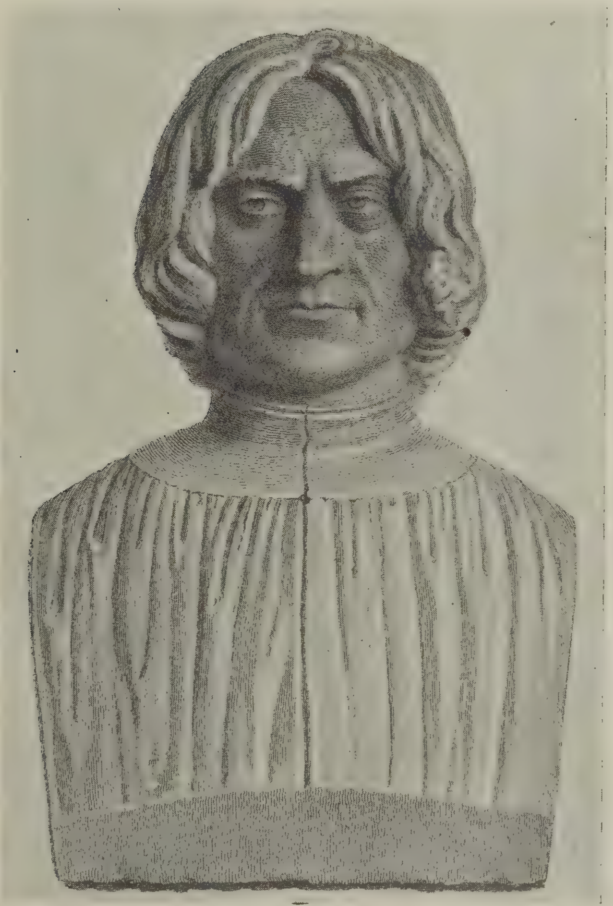
CHRISTMAS CELEBRATIONS AT A FIRM OF LONDON BUILDING CONTRACTORS.

Wednesday January 26, 1921

Volume LIII. No. 1360

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



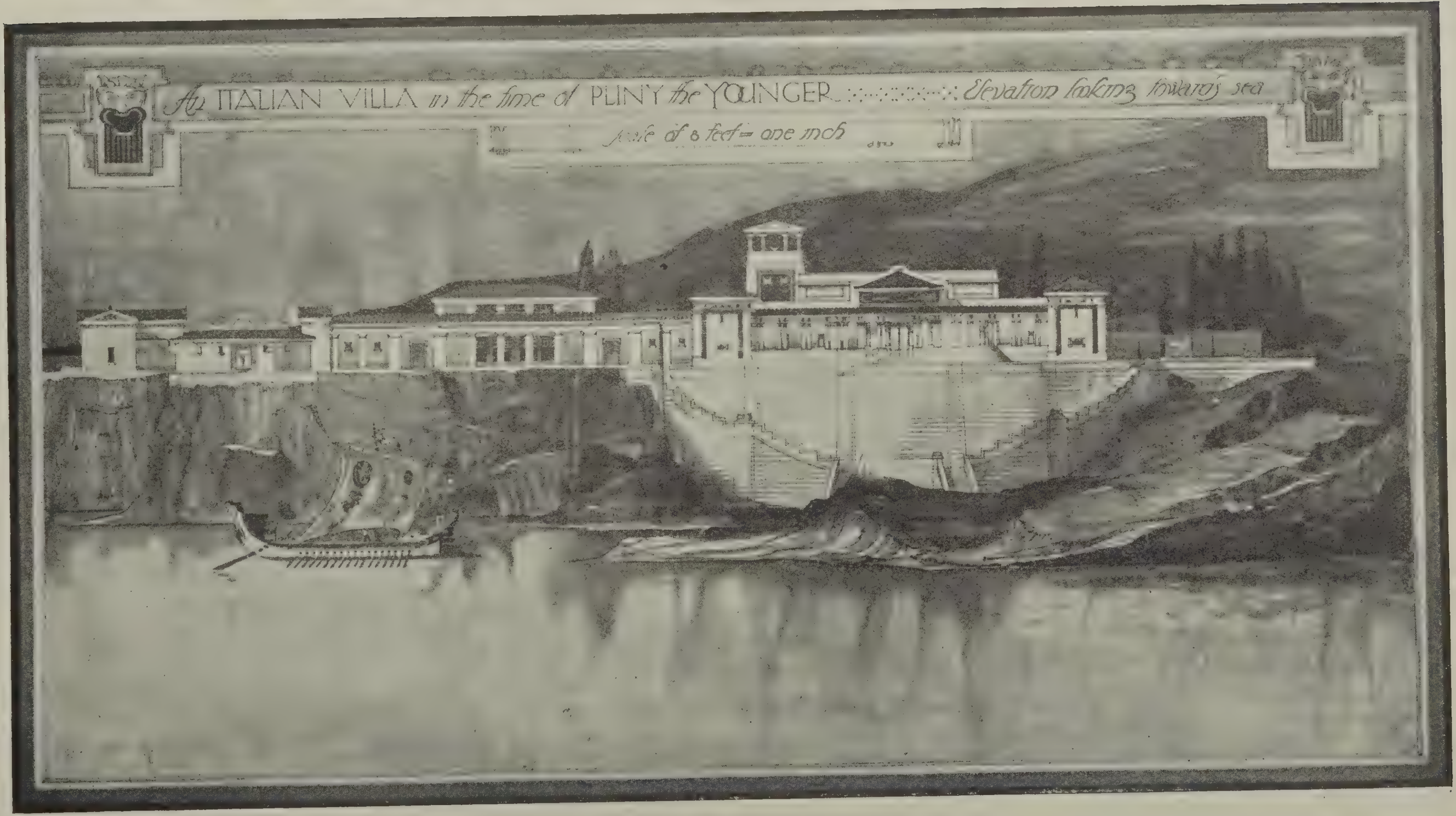
LORENZO DE MEDICI (1449-92).

The illustrious name of Medici was adorned by none more nobly than by Lorenzo (rightly named "The Magnificent"), whose academy for the study of the antique was largely responsible for the dissemination throughout Europe of Greek and Latin literature, as well as for the pre-eminence of Florence in the field of Renaissance culture. Our portrait is from a bust by Michelangelo.

27-29 Tothill Street, Westminster, S.W.1.

Architectural Designs. 7.—The Tite Prize: Elevation of Winning Design

By Gordon H. Holt


An ITALIAN VILLA in the time of PLINY the YOUNGER
Elevation looking towards sea
scale of 8 feet = one inch

The subject given for this year's Tite Competition was an Italian Villa inspired by Pliny's letter to Gallus. The consequent necessary departure from the strict letter of the competition conditions (which specify the methods of Palladio, Vignola, Wren, or Chambers) is noted by the successful competitor elsewhere in this issue. Mr. Holt has produced a scholarly yet brilliantly imaginative design, which fully justifies the award. Some critical notes appear on page 89.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, January 26, 1921 Volume LIII. No. 1360

Notes and Comments

The Nemesis of Political Housing

DR. ADDISON gets deeper into the mire every time he speaks on the housing question. His supersensitiveness to Press criticism (he seems to waste an enormous amount of energy in "hitting back") is a little too obvious. It may, however, be easily condoned as the amiable weakness of a politician who is a little over-anxious to justify his public conduct. The newspapers that call him silly names, such as "squandermaniac," are not worthy of his steel. What is infinitely worse, however, than his petulant retorts upon his persecutors is his weak obedience to their demands. He had been considering with the Treasury, he said, in his speech at Smethwick last week, "what steps they could take to prevent the shocking cost of housing." Well, what is the great remedy that he and the Treasury have evolved? Why, "he thought that quite rightly they would not sanction any longer any contract above a sufficient figure." It is to be hoped that this passage has been misreported, for a more inept sentence we have seldom seen. Taking it as it stands, it implies that his Department has hitherto sanctioned extortionate charges, but is at length "quite prepared" to resist them. Only now, after nearly two years of office, is he "quite prepared" to do what he ought to have done at the outset. Also the Government has just appointed a committee to enquire into the costs question! With Dr. Addison's intentions we have every sympathy, for they are unquestionably honest and kindly. As a Minister of Health, pure and simple, he would doubtless be splendidly successful, rendering really valuable services to the nation; but it was cruel to saddle him with Lord Downham's sinister legacy of an insoluble housing problem. Like Sindbad, he assumed his burden cheerfully, but soon found that he could neither bear it nor shake it off. It was imposed upon him through some muddled misunderstanding such as politicians alone can ever achieve. Possibly the reasoning was that, healthy houses being required, therefore the Minister of Health was the proper person to look after them. Quite so. But to see that they are built hygienically is one thing, and to build them one's self is quite another. A builder would be quite as competent to direct the Medical Department as Dr. Addison is (we say it without the slightest disrespect) to conduct the Housing Department. It would be insincere to affect surprise at the blunders he has committed, and unjust to make him wholly and solely responsible for them. The blame rests with those who imposed upon him the impossible task. The worst feature of the case is that he cannot drop his burden. He has gathered about him a large staff whom he cannot discharge without cruelty and injustice, and he is committed to engagements which he cannot relinquish. Were he not, *more medico*, addicted to giving advice rather than to taking it, he would have prevented the present muddle, and especially would he have been kept out of his desperate flirtation with the Guilds, which has disgusted the employers without placating the workers. The most sinister feature of the whole housing movement is that it has been manipulated to serve political ends—not consciously by Dr. Addison himself, but rather through too faithful obedience to his master's voice. It was conceived as a political device for popularising the Government. That it is now having the directly opposite effect is the Nemesis of mixed motives.

Foreign Embassies in London

The announcement that the residence of the late Mr. J. Pierpont Morgan at Princes Gate is to be adopted as the permanent home of the American Embassy in London carries with it a somewhat surprising statement. Hitherto, it is observed, the American Ambassador has had to make his own arrangements for a house; and it seems that the acquirement of his house has had to be ratified by a resolution passed by the United States Senate. They must have heard how difficult it is at the present moment to obtain a house of any sort in London, and, appalled at the notion of the U.S. Ambassador looking for lodgings in the congested suburbs, must have snatched eagerly at the opportunity of acquiring the imperfectly Palladian but quite dignified town-house that was found good enough for an American millionaire. It is well; but it would be very much better if each and all of the foreign Ambassadors were spared the indignities of house-hunting by having embassies specially built for them—preferably guest-houses hospitably provided by our own Government. An Ambassadors' Square, to accommodate all the representatives of foreign Powers, would be ideal from the point of view of the town-planner who believes in "classifying" his "quarters"; but the inherent weakness of an otherwise admirable scheme would be seen (and heard and felt) when the representatives of rival belligerent Powers happened to meet casually in the open. If Lansdowne House and Devonshire House were occupied as foreign embassies, they would be given a fresh lease of life and utility. Why not?

Expanding Whitehall

Whitehall and Westminster being seriously congested with Government officials, it was determined fifteen years ago to erect Departmental premises in the suburbs. Kew, Acton, West Kensington, and Muswell Hill are already assisting in this movement towards decentralisation, and apparently the experiment has not been found unsuccessful, for further scatterings of the flock are in contemplation. One would have supposed, however, that the wide sundering of departments and officials that surely ought occasionally to get into touch with each other, if only to thwart each other's schemes, must cause much delay, inconvenience, and expense. There can be no question that all Government offices should be clustered round Downing Street. That they are not, is a proof that the science of town-planning is still painfully new. Government is not yet awake to its virtues. To house a Government Department at Acton is rather less sensible than lodging the Prime Minister at Chequers. What these expatriations will cost the country in motor journeys and telephone messages (at the enhanced cost) will, in a few years' time, mount up to the price of a stately new building in Whitehall, where all important Government Departments certainly ought to be. In this regard, "decentralisation" is simply an inane catchword. Some future Government, endowed with a decent share of courage and common sense, will clear away from Whitehall and Parliament Street all the trading premises that now infest the thoroughfare, which must then be filled, on both sides of the way, with Government buildings that shall worthily reflect the greatness of the Empire. Imagine it—one long and stately street, filled on both sides of the way, from Trafalgar Square to Palace Yard, with noble buildings! It would be the finest street in Europe. How long must we wait to see it in being?

The Winner of the Tite Prize

The name of Mr. Gordon H. G. Holt, who this year wins the Tite, will be recognised by most of our readers as that of the author of many fine drawings which have been reproduced in the pages of this Journal. It will also be recalled with equal pleasure that Mr. Holt, when serving as an officer in the Air Force, contributed to the "Architectural Review" a series of very interesting aerial photographs, which were among the very earliest to be published; and Mr. Holt was almost the first airman to discern the value of aerial photography in civil land-surveying. In architectural draughtsmanship, Mr. Holt has made steady progress from promise to power, and in appraising the fine design for an Italian villa which has gained him the coveted Tite Prize, due allowance must be made for the casual loss by reproduction in black-and-white of effects that are possible to colours only. Such losses are not invariable. Occasionally, indeed, the black-and-white reproduction, getting rid of garish or inharmonious colours, is a distinct improvement on the original. It must be confessed that in the present instance this is not the case, the original drawings being as brilliant in rendering as in design.

Middlesex Sessions House

If the Middlesex Sessions House on Clerkenwell Green is to disappear, London will lose one of its most admirable façades. Pity it is if indeed we are to miss so truly architectural a design, with its rusticated basement whence spring four central pillars and two flanking pilasters, all of the Ionic Order, and with its finely proportioned pediment. Its sculptured decorative features charm as much by shape and position as by subject and execution: It was Nollekens—who by this and by that is of late come to much notoriety, or let us rather say posthumous fame—it was the incomparable "Joe," whose biography an astute publisher has thought it worth while to reissue within the past few weeks, who carved Justice and Mercy in the ovals, the medallion of blunt George the Third over the centre window, the emblems of authority and Justice that flank them, the arms of the county that so sweetly take their place in the tympanum. Was it Nollekens, we wonder, who suggested to Rogers, the architect of the building, this rhythmical decorative treatment, including the trabeation of two of the windows (the others being arched) to accommodate the low-relief carving? Or did the conception arise with the architect? We should like to think that the happy effect was the result of pleasant co-operation between two genial men who were also excellent artists. The building, of which the front is of Portland stone, while the rest is of brickwork, which in 1860, when Mr. Pownall made some rather extensive alterations, was coated with cement, measures 110 ft. from east to west, and 78 ft. from north to south. It was Mr. Pownall who put up the iron railings with which the building is surrounded, introduced a lantern at the summit of the dome, put in the stone balcony leading from the old court to the new. We very sincerely trust that so excellent a building may be preserved for other uses than those for which it is no longer considered to be fit.

The High Cost of Building

In an article on "The Work of the World," published in last week's "Observer," Sir Leo Chiozza Money collects some instructive evidence on uneconomic methods, and the trend and effect of prices. Commenting on the news that the Town Council of Northampton has received a tender for 118 houses at £772 each, as against a previous contract made at £1,021 per house, Sir Leo says: "A workman's cottage, 'economised' to the last cubic foot of content, and yet costing £1,021, is an economic absurdity which we shall wonder at in ten years' time, as we write off the margins which never should have been put on." He believes that the high prices of sanitary and other hardware fittings have largely affected the result, and that soon there will be a voluntary reduction in those prices. At the same time he quotes the "Ironmonger" as recording the issue, on January 1, of a catalogue in which the prices of wrought-iron pipes or tubes for gas, water, and steam, have been considerably increased, and he cannot understand this particular reaction against a general tendency. Nor can we: and we trust that such matters will be made the subject of exhaustive enquiries by the Committee that has been appointed by the Ministry of Health to investigate the causes of the high prices of building materials.

Mixture of Periods

Is the "Period" tyranny collapsing? There are many indications that its uncanny power as a bogey is rapidly waning. For example, Mr. G. G. Wornum, in seconding the vote of thanks for Mr. Robert Atkinson's lecture to the Architectural Association on "The Architect as a Collector and Connoisseur," expressed the opinion that the different periods did not necessarily clash with one another, and that "a room entirely decorated and furnished in one period appeared to be dead and to lack individuality." He held that "the mixing of the periods gave much more opportunity to introduce character in a room, and incidentally permitted much more scope in collecting." It is, he added, "our duty to fight the furniture providers and dealers. We must understand the art of furnishing, and convince our clients that we understand it." We are in complete agreement with the gist of this doctrine. To cling to the Period is the way of the timorous playing for safety, or sheltering himself behind some authority other than his own. To make his own choice might expose his own feeble sense of fitness, and he is glad to transfer the responsibility to some tradesman who will "guarantee that every detail is correct to Period." When, therefore, one sees a room that is rigidly "correct to period," one suspects that the owner lacks the courage to express his own individuality, and is weakly dependent on hirelings to protect him from the covert sneers of the froward. A room should not express Period, but personal character. It were better to be vulgar and free, than "correct" and in bondage to a fetish. Architectural opinion will prevent either catastrophe.

The R.I.B.A. Competition Designs

By JAMES BURFORD, A.R.I.B.A., (Director of University College Atelier).

THE subject set for the Tite Prize is An Italian Villa, inspired by Pliny's letter on the subject of his own. Considering the general conditions of the competition and the design for which the award is given, there would seem to be an ambiguity in the programme. The prizes and studentships pamphlet announces that the design should be "according to Palladio, Vignola, Wren, or Chambers," and the extract from the will of Sir William Tite calls for a "study in England of Italian architecture"—an obscure phrase in itself. The programme states, with the emphasis of brevity, "This is not an archæological exercise."

Without attempting to define the term "archæology," it is safe to say that any of the numerous schemes submitted show a more faithful adherence to these conditions than does the premiated design.

Architecturally they lack the power of design, of draughtsmanship, the imagination, and the scholarship of the successful essay by Mr. Gordon Holt, who wins, and earns, the prize, and on whose success we would tender our congratulations. This is a villa in which Pliny himself might well have lived—a villa in which the author has spent, intellectually, many pleasant days. It has a genuine savour of intimacy—of reality if you will—too often lacking in the works of students.

The approach is well considered, and the elaborate and beautiful main triclinium forms a bold culmination. The plan suffers a little from a monotony of motifs and a lack of cohesion in its parts. There is a harsh junction between the baths and the western colonnade, where, viewed from the south, so important a feature as the former needs a stronger expression, both on plan and elevation. The silhouette of the plan is not always pleasing; it is somewhat impaired by the rather clumsy placing of the slaves' quarters. The elevations show a happy blending of the monumental and the domestic; the section speaks of delights unknown to modern civilisation.

Mr. A. G. Paton ("Giacon"), to whom a certificate of Hon. Mention is awarded, submits a design which is well adapted to the site, and whose component parts are happily united. The central triclinium is too isolated; seen in perspective it would completely divide the two wings of the elevation. In a villa of this size the quarters of the servants would be the better for a more thorough segregation. The towers, which are so prominent a feature of the elevation, are insufficiently expressed on plan. The drawings have suffered from a too liberal use of the spray.

MR. GORDON H. HOLT (WINNER OF THE TITE PRIZE).

The villas of North Italy have served as a model for the design by "Gondola." The drawings are well rendered, but the plan is scattered. The difficulty of balancing an open loggia with a solid wing, in an otherwise symmetrical scheme, has not been successfully overcome.

It is to be feared that the plan by "Arc" is insipid. The function of walling needs further study. For example, the heaviest masses on the plan, round the apsidal court, are found to be constructionally purposeless and the lowest part of the elevation.

"Isobel" shows a sound plan, but a more direct access to the main salon and bathroom, which could have been easily obtained, would have added to its value. The treatment of the elevations is too heavy.

The design marked with a red disc is unnecessarily complicated in its plan, which has unfortunate repetitions of similar motifs to varying scales. The elevations show clever combination and free adaptation of the late Roman domestic and the Italian Renaissance work. The rendering is tentative.

"Sealess" presents a plan simple in its main outlines, but unpleasantly congested round the principal vestibule. It is difficult to see how some of the rooms in this part would be lighted. There is a sudden and weak connection between the head of the plan and the inner court.

Turning to the measured drawings, we experienced conflicting emotions of admiration for the painstaking zeal they evidenced and of doubt of the actual educational value to their authors. When a building has yielded up its secret, sacrifices of midnight oil are of no avail. And (in the same strain) some of the drawings were a trifle smoked. It is the soul of the building we want to know—not its corpse.

The pen-and-ink line drawings of King Charles's Block at Greenwich Hospital, by Mr. J. H. Odom, whom we congratulate on winning the medal, are a masterpiece of technical precision. He shows a sure mastery of his medium. We doubt the wisdom, however, of working in the window panes alone, which produces a rather startling effect.

Mr. C. Leckenby, who receives a certificate of Hon. Mention, submits a set of details from the Temple of the Sun at Baalbec, beautifully and sensitively drawn; the modelling is cleverly suggested by a knowing gradation of the thickness of the line.

The drawings, marked by a triangle, of the Church of St. Mary Woolnoth constitute a valuable historical record—may the church be spared to us. The technique of the pen work is thin and lacks feeling, but this is less noticeable in the sections than on the elevations.

"Ralph Allen's" studies of Prior Park are carefully measured and drawn; the rendering is immature, but it holds a promise of future success.

We have sought to indicate what seemed to us most worthy of condemnation. We would beseech our readers, if so be we have handled them not lightly, to remember that critics always swarm about the noblest works, as wasps round the fairest fruit; that dogs growl most where are fewest bones; that with architecture, as with horses, the good points speak for themselves.

The Tite Prize, 1921

THE following notes on his design for the Tite Prize have been courteously provided by Mr. Gordon H. Holt, the successful competitor:—

The subject for the Tite Prize this year presented an awkward initial difficulty: the competitors had to choose between working out a design "according to the Methods of Palladio, Vignola, Wren, and Chambers" (as set out in the Tite Prize conditions), or else according to the rules of design obtaining in the time of Pliny the Younger, a difference of over 1,400 years.

I elected to be governed by the specific conditions of this year's subject, which explicitly asked for an Italian villa inspired by Pliny's description in his letter to Gallus; in other words, a Roman villa.

This letter to Gallus is uncommonly thorough and direct, and its breezy vigour more than makes up for an occasional lack of lucidity with regard to planning.

At any rate, there is plenty of information to be gotten from it, and the various interpretations which have appeared from time to time are also a help, for, if, on the one hand, Scamozzi, Felibien, and Castell are a little too hazy or inaccurate (we must, however, bear in mind the period), on the other, Marquez, Haudebourt, and, particularly, Bouchet, are a valuable trio to cull from. Dr. Spagna's articles on Roman Gardens and Niccolini's sumptuous work, as well as the many German and French monographies on the art of Pompeii, complete the series of informative sources at home.

A call for an imaginative treatment was read between the lines of the conditions: "This is not an archæological exercise. Pliny's description is simply to be taken as an inspiration for a building on similar lines." So that, chancing upon this declamatory epigram of an anonymous Greek writer*:—

Τοῦτον Ἰουστινιανὸς ἀγακλέα δείματο χῶρον
ὕδατι καὶ γαίῃ καλλος ἐπικρεμάσας

"Justinian built this magnificent house, a thing of beauty, to overhang land and water." . . . it occurred to me to set the villa upon rocky cliffs bathed in some southern sea, and as the best type would, in this case, be the completest, I also chose to elaborate it so that it should satisfy its generic appellation of *pseudourbana*. Furthermore, it being constant how Roman villas built to the order of rich patrons (and Pliny was undoubtedly a rich man, in spite of his disclaimer) had, more often than not, their own extensive farm near by, I included in the general layout a "villa rustica," where produces of wine and olive would not only feed the estate, but might well be taken by plying galleys to distant towns on the littoral. The villa proper has also been given a pleasure harbour, fed from the terrace, in front of the main triclinium, by two flights of steps.

The simple expedient of throwing out a long Porticus at right angle to the longitudinal axis of the building provided the necessary shelter for a Xystus, which would prove warm, ample, and get-at-able.

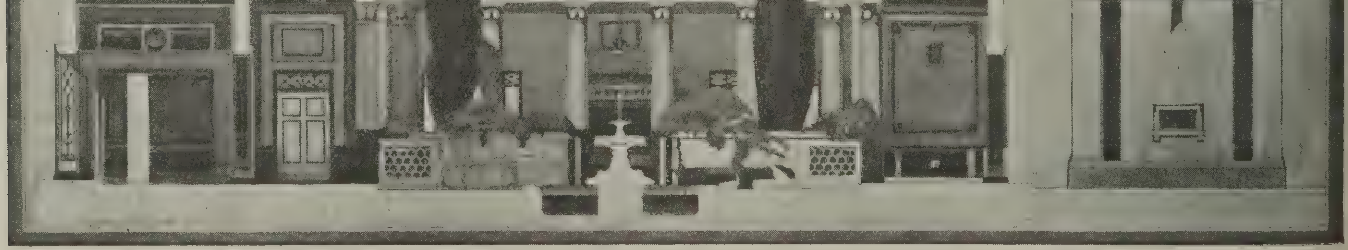
This Porticus, it will be seen, gives access in its centre to the Baths, thus made a feature outside the villa, and yet in close proximity to its peristyle. A Quincunx separates the baths from the somewhat discreet emplacement of a Venereum and Studio; these two sanctuaries of Art and Love—*delectationis causa*—are thus ensconced in deep clusters of trees, away from prying eyes. The stables will be found near the main approach on the long axis of the Hippodromus, a favourite feature of all large Roman villas. In order to invest the coast line with a little zest, various animal shapes have been introduced thereunto, and I deemed them more fantastic than harmless.

There is only one good way of decorating the walls of such a villa, so I have introduced in the half-inch detail a scheme of frescoed decoration, whose colours I have endeavoured to render as hectic, as direct and, withal, as harmonious as the forcible examples left us by the Romans. This aspect of the decorative value of colour-masses, together with the grand manner in laying out gardens and approaches, does give an especial and, to us modern architects, a permanent interest to a subject thus far less pedantic than some timorous persons would have us believe.

[Mr. Holt, four of whose brilliant drawings are reproduced in this issue (much of their vividness is inevitably lost in monochrome), is a Beaux-Arts and A.A. man, and to the excellent training of both these institutions, plus his own individual genius, may be attributed his brilliant success in the Tite Competition. Mr. Holt was a student at the A.A. when war broke out, and he now holds an appointment there as a master. He was awarded a Silver Medal of Merit in last year's Pugin Studentship. During the war Mr. Holt served first in the Royal Artillery and afterwards as a pilot in the Air Force.—EDS. A.J.]

---

* On the entrance to Heraenum, on the Asiatic bank of the Bosphorus.


An ITALIAN VILLA in the time of PLINY the YOUNGER: Half-inch detail of peristyle

THE TITE PRIZE: SECTION OF WINNING DESIGN. BY GORDON H. HOLT.

Architectural Causerie: Untidiness

I AM sorry to provoke the resentment of many honest citizens who enjoy this enormous sprawl of streets called London, but, after making a special journey along several highways devoted to commerce, no alternative presents itself. During my walk I found that, apart from decorative absurdities disfiguring recent examples of architectural skill as well as lack of easy elegance in the placing of one stone upon another, such as should distinguish good building, merchants and others were prone to plaster the walls and window panes of their expensive possessions with nonsensical signs, some of which stared by day while others stuttered by night.

* * *

John Bull to-day is a princely shopkeeper. No longer does he keep house over his shop premises; rather he retires to scenes of rural simplicity, and encourages his customers to frequent the upper floors. Not content with employing an architect to reconstruct his shop and to embellish the façade with ornamental devices—the latter devoid of symbolism, and having in the main reference to the length of the tails of horses intermingled with O.X.O. ironwork—Prince John commands his favourite sign-writer to fashion gilt letters of giant size, and to affix the same in such a manner as to obscure completely the architect's plainer surfaces.

* * *

During my peregrination last week I journeyed to Hammersmith by the Tube from Leicester Square, determined to walk back to Piccadilly and see for myself the effect of that "untidiness" which has been satirised so scathingly by Professor Lethaby. Arrived at my destination, I was astounded to find that the mise-en-scènes consisted almost entirely of nondescript buildings forming a ragged skyline, and upon the fronts of all and sundry of the houses were hung appeals to try this, that, and the other in defiance of all the rules of good taste and all the dictates of common sense.

* * *

The road to Piccadilly stretched before me. Truly this is a lettered city, and one worthy of first place in the world's esteem. As I trudged along, gazing first to the right and then to the left, I saw first an excellently designed cinema front attached to what had been a late eighteenth-century suburban house. The designer had followed the Adam theme, and had carried out his work in the colours of Wedgwood; but the proprietors of the house had endeavoured to annul the good by affixing an electric sign, supplementing this outrage with some posters in execrable taste.

* * *

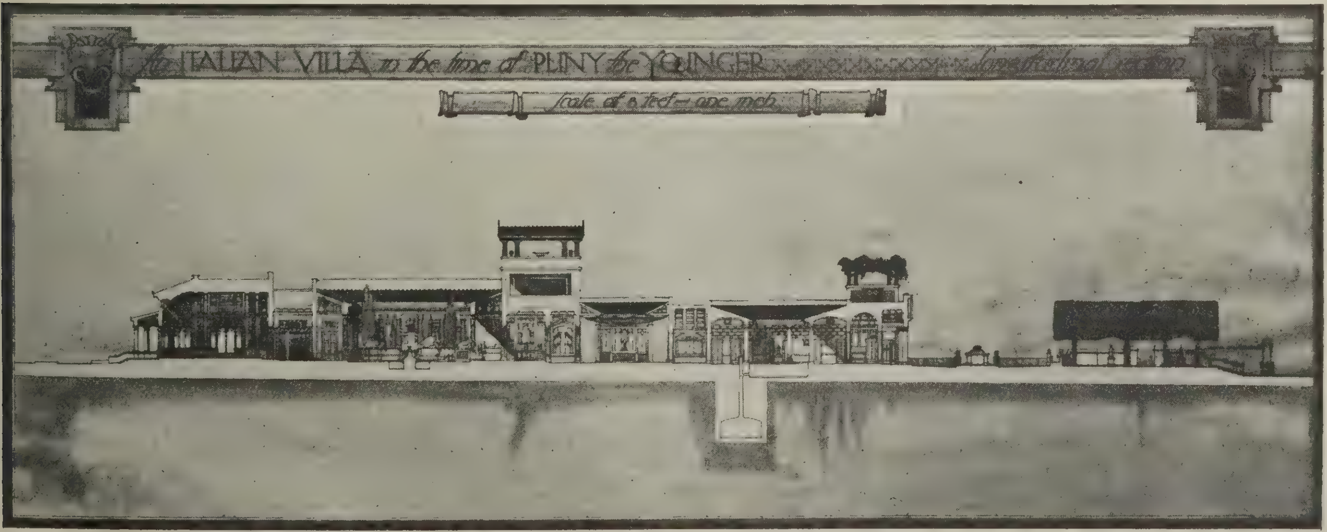
Near Olympia, where the broad road crosses the railway, I found the decent stone parapet of the bridge indecently plastered with posters, some of which hung in tatters. Near by stood a terrace of houses garbed in freshly-painted stucco, but, to my amazement, these houses, which could not but command a high rent, and which to all outward signs seem to shelter a respectable class of citizens, were finished at the western extremity by an immense board covered with tawdry advertisements. For the moment I imagined that the Royal Borough of Kensington had strayed across the Thames to enjoy the delights of Clapham Junction. "Never mind," said I, to console myself in this afflicting adventure, "things are bound to improve nearer town"; but, to my chagrin, I found, as I journeyed, a large board announcing that the unique grounds of Holland House were available for development, and through the bare trees I caught a glimpse of Elizabethan gables mutely appealing for succour.

* * *

At Kensington things did appear to be in better order, save for some untidy allotments near the Wren gates. Kensington Gore, for the most part, had also escaped the spoiler's hand. But, alas! poor Knightsbridge, with its medley of styles, curious column, polite statue, and extraordinary architecture floating above a sea of plate-glass.

* * *

Along Piccadilly no flaunting signs disfigure the clubs or defile the silvered stones, but at Devonshire House the greatest surprise of all awaited my excited ken. To what low estate the once dignified screen of this aristocratic home has fallen. No common executioner, no hack bill-poster, has been allowed to plaster Kent's brickwork. There is even a notice forbidding the posting of bills. The supreme offence has been wrought by the official myrmidons of the London County Council. Left, right, splatter, splash, dab, and daub, no matter so long as the posters stick, thus hang advertisements telling of the alluring attractions and financial soundness of housing bonds. Even in Bolshevik Russia such things would not be tolerated. And so along to the Circus of Piccadilly, which Nash garbed in uniform, but which has since been decked out in patchwork fustian. AERO.


The ITALIAN VILLA in the time of PLINY the YOUNGER
Scale of 8 feet = one inch

THE TITE PRIZE: LONGITUDINAL SECTION OF WINNING DESIGN. BY GORDON H. HOLT.

Human Nature in Industry : A Psychological View

4.—The Employer as Educator

By E. J. G. ALFORD, M.A. (Cantab.)

In the last article of this series, Mr. Alford emphasises still further some of the more important psychological aspects of industry. He shows again the potency of "the innate instincts of curiosity and creation," insists on the advantages of linking imagination and culture to industry, and exposes the fallacy of the prevalent assumption that the only motive for labour is livelihood.

IN my last article I suggested that the social and productive problem of industry could only be solved by a considerable modification of our ideas about the natural bases of work. I have suggested that instead of regarding work as essentially an uncongenial necessity imposed by inevitable conditions, we should realise that creative activity is the end of synthetic psychological development; and that a contrary attitude is the result of prejudice, part conscious, but in great part unconscious, formed by the association of effort with arbitrary discipline and unmeaning occupation. Unfortunately the employer's problem is not merely to provide a suitable psychological environment for operatives in whom the natural mature impulses function unimpeded. They enter his firm with an outlook already restricted, and with energy already impaired by conflicting mental habits formed during childhood and cemented by earlier experiences of industrial life. It will acquire unusually keen insight into human nature, and uncommon patience and ingenuity, to unravel the various motives and resistances, to provide for the mature and creative, and to avoid stimulation of the primitive and obstructive. Even among employers and managers who sincerely desire to take into consideration the psychological factors with which I have been dealing, the necessary qualifications may be lacking. Their own prejudices may be too unconscious, their own mental complexes too deep-seated to allow them a clear view and judgment. They will be apt to preach when they might more profitably act the devil's advocate. Or their courage will fail before the ungenerous opposition of the more active or the apathy of the more conservative of their own hands.

The first essential is the creation of a sense of personal responsibility among the operatives. By this I do not mean moral responsibility, but a sense of self and group-direction, which can only be attained by the exercise of consultative, if not administrative, powers. An instance has been quoted in which excellent results were obtained from the development of a canteen committee. I would refer also to the policy of another firm by which responsibility for timekeeping was devolved on to a committee composed entirely of workers.* Whether, and to what extent, subsequent use was made of this committee for other purposes, I do not know. If its function began and ended with the control of timekeeping, an invaluable opportunity was lost.

In this matter of the devolution of disciplinary and consultative or administrative power, it is impossible to suggest any general method of procedure. The best method will vary in the particular circumstances of each firm, and any attempt will probably be most productive if initiated in a quasi-accidental manner as in the above cases, and not with a fanfare of welfare or other trumpets. One committee with such powers within the works contains more possibilities than ten committees to run sports and recreation financed by the firm outside the working premises.

While touching on the matter of discipline, I should like to stress the importance of psychological considerations in the appointment of foremen and forewomen, and of all in junior executive posts. They are the representatives of the firm in the eyes of the workers in a possibly more significant manner than the employer ordinarily realises, and their attitude to those in their charge will be one of the determining factors in the spirit of the works. But their attitude will also to a large extent be controlled by that of the departmental chiefs.

Without some measure of the group-spirit in the firm, any attempt to stimulate interest in the significance of the operatives' labour will probably fail; certainly if undertaken by the firm itself. Its association with the source of discipline and arbitrary control will create automatic resistances and antagonism, even if there be no conscious suspicion of ulterior motive. But given a friendly attitude, no problem offers more in its solution than the regeneration of creative impulses, and the stimulation of professional pride. No good work in whatever field, artistic, scientific, industrial, or administrative, has ever been accomplished without these motives, nor can be.

What is required, then, is the awakening of the imaginative spirit in industry; the spirit of wonder, a sense of the significance of the superficially insignificant; a sense of the power of hand and mind, and of the cohesion and interplay of multiple energies and actions; a sense of all that makes of an occupation not a self-enclosed activity to an end (wages) with which it has nothing but an artificial connection, but an integral, if minute, part of the complex organisation of creative (and conflicting) activities which constitute the life of man.

These are high-sounding phrases, but in reality are of less Utopian intention than they may appear. As I write I watch a woman cleaning her parlour windows in a tenement opposite. She is absolutely concentrated on what she is doing, working with the utmost energy, interest, and will. Now, what is the motive behind this extremely simple but evidently important action? Certainly a clean window lets more light into the room. But if I were to ask her why she was so intent on her job she would mention no such utilitarian end. Probably she would be nonplussed by so simple but difficult a question. But she might say, "Well, I don't like to see dirty windows," or, "I like to have my place clean," or something to that effect. At once we are let into the field of ideals. Ideals are commonly regarded as possessing something of a negative moralistic flavour, a mistake for which in the main we have to thank the Churches and the schoolmasters. Ideals would be less dangerous and arouse less resistance if viewed simply as abstract ideas to which a strong favourable sentiment attaches. The ideas and sentiments behind this woman's action probably concern herself, her husband, her family, the genus housewife, home, cleanliness, order, beauty, efficiency, economy, etc., ideas and sentiments which are based on an infinity of experiences, both intimate to and remote from her present occupation, so firmly embodied in the matrix of her mind as to give rise to an habitual attitude, or more simply a habit. Certainly she is incapable of conversing on these subjects in anything but banality and cliché. Her mind is nine-tenths blank to itself. Nevertheless, all her idea and experience of these and many more will lie behind and be associated with her interest in her work.

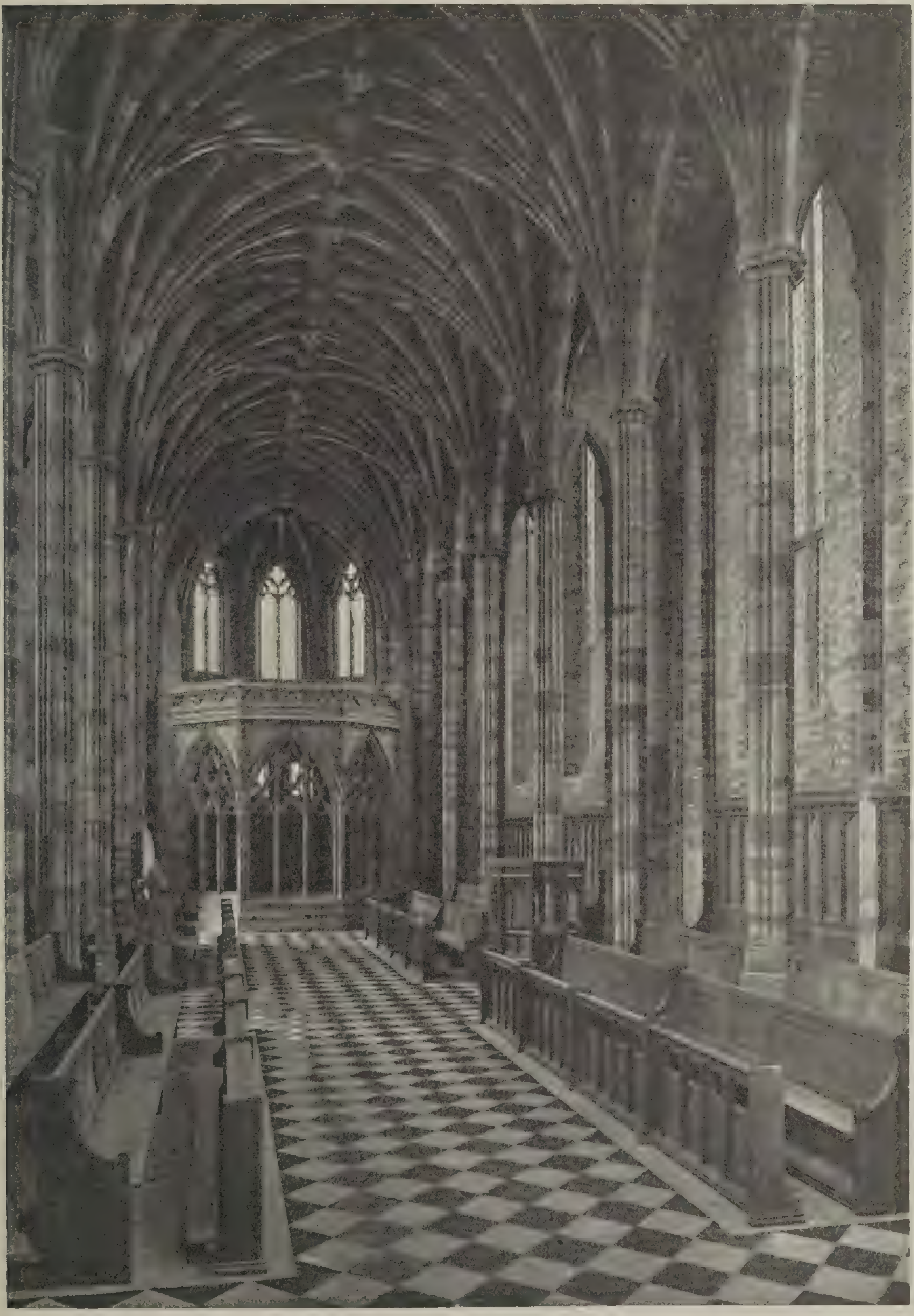
(*To be concluded.*)

---

* Vide "Welfare Work." Feb. 1920. To be obtained from the Welfare Workers Institute, 11 Adam Street, Adelphi, W.C.2.

Modern Ecclesiastical Architecture. 11.—Handsworth Cemetery Chapel, Birmingham: Interior, looking towards Mortuary

W. H. Bidlake, Architect



It is of more than ordinary interest to observe that the spirit of mediæval architecture is interpreted so successfully by a group of English architects, who have made a special study of the subject. It is a sign of the times that the underlying principles of mediæval architecture are taught in the schools. Although the number of churches in Gothic taste likely to be built in the future will be limited, there will be plenty of scope for architects capable of undertaking the repair of ancient fabrics.

Praeneste: A Study for its Restoration*

By H. CHALTON BRADSHAW, A.R.I.B.A., British School at Rome Scholar

THE town of Praeneste (modern Palestrina) lies about twenty-three miles east of Rome on the slope of Monte Glicestro, a spur of the Apennines. The town faces nearly due south towards the Alban Hills, and is in a position of great natural strength, which was made still stronger by artificial means. The origin of Praeneste is quite unknown, various contradictory legends being given of its foundation. The earliest settlement was probably on the acropolis (now Castel S. Pietro), which at an early date was connected by long walls of Cyclopean masonry with the town which grew up round the sanctuary of Fortune on the lower slope of the mountain. The natural strength of Praeneste and its position commanding both the way into the land of the Aequi up the valley of the Liris and also the pass of Algidus, the principal routes between Northern and Southern Italy, together with the fame of its oracle, combined to make it one of the most important towns of Central Italy.

Soon after the Civil War, 82 B.C., Sulla largely remodelled the city, placing the forum at the foot of the hill in the plain and rebuilding the Temple of Fortune on a large scale, so that it occupied much of the site of the earlier town. From this time Praeneste seems to have changed its character. Villas were built on the plain below and on the neighbouring hills, and Horace ranks it with Tibur and Baiae as a health resort.

From the earliest times the fame of Praeneste was bound up with that of the sanctuary and oracle of the Goddess Fortune, who was here worshipped as Primigenia or "First-born" (of Jupiter). The shrine of the goddess seems to have suffered severely when Praeneste was captured by Sulla. But Sulla paid special reverence to the Goddess Fortune, and under him the shrine was rebuilt with great magnificence on a much larger scale. This restoration must have made it the largest sanctuary of the kind in Italy and a conspicuous landmark. The oracle was finally closed by the Emperor Theodosius, who in A.D. 392 put an end to pagan cults.

In A.D. 1297 the Colonnas revolted from Pope Boniface VIII., and the next year the city was taken and razed to the ground. But under Clement V. the Colonnas were allowed to regain possession and rebuild their city. In A.D. 1437 the Colonnas again rebelled, this time against Pope Eugenius IV., who ordered the unhappy city again to be levelled with the ground. This was carried out by Papal troops under Cardinal Vitelleschi. Soon after this the Colonnas once more reconciled themselves to the Church, and Pope Nicholas V. (A.D. 1447-1455) gave permission to rebuild the city. This was done by Stefano Colonna, who also restored the fortress on the site of the ancient acropolis. His son Francesco restored the palace.

From this time the city took on its modern aspect. The Colonnas remained its feudal lords, though with limited rights, until 1630 A.D., when it passed by purchase to the Barberini family, who still keep the title of Princes of Palestrina. The modern town is a dirty, picturesque place with winding streets that break at intervals into flights of steps. Built into the walls of the many mediæval houses that remain can be seen pieces of cornices, friezes, and architraves, while broken column drums and other fragments are to be found in most of the gardens.

Since the Renaissance Praeneste has been the subject of several restorations. These attempts show two main faults. First, temple buildings, colonnades and open spaces all connected with the sanctuary have been made to cover the whole slope of the hill; secondly, a perfect balance has been shown throughout. The reason for this is that early schemes for restoration were made without any exact measurements of the actual remains visible. Discoveries and excavations which have recently been made on the site, though not on any large scale, suffice to disprove these restorations, in all of which imagination plays a large part.

Basis of the Drawings

In the preparation of my drawings of the actual state of Praeneste I have depended chiefly on the surveys made by Mr. Prestwich. The plan has been based on the Stato Ponteficio Survey of 1818, supplemented by the levels and survey of the 1° Reg. Genio stationed in Palestrina during the war. The whole has been brought up to date and corrected by measurements and levels which I took on the spot. I have made no study of the lower part of the city (i.e., the Roman forum and its surroundings below the present town), and have limited my restoration to the part above the Via degli Arcioni.

The date chosen for the restoration is the end of the first century A.D. The site of the ancient town was at this time partly covered by the sanctuary as rebuilt by Sulla, who founded a new Roman colony at the foot of the hill. Before the time of Sulla there was obviously no attempt at symmetry in the planning of the town. The lower terrace walls and south boundary are not parallel. The axis of the central building under the present cathedral was not parallel with that of the group of buildings forming the ancient shrine. In the reconstruction which followed Sulla, an axis was taken passing through the centre of the space between the two grottos, and terraces were made at right angles to this line. The design of the upper part of the town is completely balanced, and repeats and confirms the lines of the early sanctuary. Two small hemicycles were made on the upper terrace to correspond with the two grottos. On the lower terrace, in Imperial times, a large water-tank was built which practically corresponded with one already existing on the east. In this way the town began to assume a symmetrical appearance, but there was far from being a perfect balance between the two sides.

MR. H. CHALTON BRADSHAW, A R.I.B.A.

Excavations have been made in the modern Piazza Regina Margherita which show that an open space existed here in ancient times. Four steps running right across in front of the modern seminary were found, and the paving of this space and of an ancient road leading into it, and the steps of a podium are to be seen at the north-east corner of the cathedral. This identification is made all the more probable by the fact that round this space, on the north and west sides, were the most important buildings of early Praeneste. The aerarium is to be seen here under the modern seminary. This is proved by an inscription in it giving its name. As we know that in ancient towns the usual place for the aerarium was the forum, it makes it all the more likely that this space was the forum. How far it extended south and east is not yet known, but the slope of the ground limits possibilities on the south side. On the east it has been restored so that the temple is in the centre of the north side (as was the case at Pompeii). Every former restoration shows the forum extending to the west, so that the central building (under the cathedral) stands in the middle. What evidence there is, however, is against this idea.

The most ancient building of Palestrina is now part of the modern Cathedral of S. Agapito. It is of "opus quadratum." The excavation, still open in the Piazza Regina Margherita, shows that this building stood on a podium with steps leading down to the street and forum on the east side. In 1884 Professor Marucchi discovered traces of the Solarium mentioned by Varro on the south wall. The colonnade surrounding these walls, shown on practically all restorations, is therefore proved impossible. It is probable that this building was restored and embellished in the time of Sulla, as it was the centre of his whole scheme. There is a doubt about its identification, but the general belief is that it was the Curia, or Senate House, of pre-Sullan Praeneste.

The restoration of the upper part of the town is an easier matter. The whole formed an architectural setting for the more ancient shrine below. A large open space surrounded by a colonnade with a hemicycle, the steps of which still exist in the middle of the north side, commanding a magnificent view of the plain to the south, is crowned by a round temple. This space probably served, as

---

* Extracts from a paper read before the Royal Institute of British Architects.

Professor Marucchi suggests, as an open place for functions and sacrifices, which were not possible in the ancient forum owing to its restricted size and to the presence of other monuments. The circular temple at the top is mentioned in the Colonna petition, in which it is described as like S. Maria Rotunda, i.e., the Pantheon. This is most unlikely, considering the date, although Palladio restores it in this way. Probably all that is meant is that it was a circular building.

In suggesting other suitable buildings I have referred to similar towns such as Anxur (Terracina), Tibur, Tusculum, and Pompeii. The type of house has been assumed to be rather that of Ostia than of Pompeii. The Ostian house, unlike the Pompeian "domus" with its atrium and horizontal development, depends for light on a façade with windows and develops vertically after the fashion of a modern house. Thus it is much more fitted for places where for any reason the land available for building is limited, as must have been the case on the hill at Praeneste.

R. I. B. A.

Destruction of Serbian Libraries.

The Council of the R.I.B.A., on the recommendation of the Literature Committee, desire to make an appeal to members of the Institute on behalf of Serbia, whose libraries during the war were systematically dispersed or destroyed by their late adversaries. In the work of reconstruction she is largely dependent on the aid of her Allies, and gifts of books, more especially of an educational character, will be welcomed. Those who are desirous of making any contributions to the libraries are invited to send as soon as possible lists of what they are prepared to give (books on history, belles lettres, poetry, travel, theology, philosophy, science, and education, etc., in any language), stating name of book, author and publisher, and date of publication. Only books in good condition are acceptable. Those who wish to help and who cannot give books are asked to send donations towards expenses, and for the providing of books that may be missing from among the gifts. All communications should be addressed to the Hon. Organising Secretary for the Reconstruction of Serbian Libraries, the Royal Society of Literature, 2 Bloomsbury Square, London, W.C.1.

Prohibition of Building.

The following correspondence has passed between the Institute and the Ministry of Health:—

November 23, 1920.

The Secretary, the Ministry of Health.

SIR,—At the request of a large number of architectural bodies in the United Kingdom, the Council of the Royal Institute of British Architects have appointed a committee who have been giving careful consideration to the effects of the restriction of building by local authorities in the interests of the National Housing scheme.

In the course of their enquiry the committee have ascertained that certain local authorities are prohibiting the building of factories and commercial buildings which would provide means of employment when built.

My Council desire to bring this fact to the notice of the Minister of Health, and to urge him to circularise all the local authorities to the effect that very careful consideration should be given to cases where the stoppage of factory or commercial buildings might be a cause for increasing unemployment among workpeople who would otherwise be employed therein. I have the honour to be, Sir,

Your obedient servant,

IAN MACALISTER, Secretary.

Ministry of Health, Whitehall,
December 16, 1920.

The Secretary, R.I.B.A.

SIR,—I am directed by the Minister of Health to advert to your letter of the 23rd ult., and to state that the question whether action should be taken under Section 5 of the Housing (Additional Powers) Act, 1919, to prohibit building operations which delay or are likely to delay the provision of dwelling accommodation is one for the decision of the local authority. The Ministry have no power to intervene except on appeal against a Prohibition Order.

I am, however, to forward for your information a copy of General Housing Memorandum No. 22, which has been issued by the Ministry for the guidance of local authorities in considering cases under the section, and to draw your particular attention to paragraph 8 (3).—I am, Sir,

Your obedient servant,

J. C. WRIGLEY,
for Assistant Secretary.

Paragraph 8 (3).—"Works of High Category" will include mainly industrial buildings in private ownership which cannot be prohibited without most serious consideration. These works are such as will result in increased employment, enhanced local revenue, enhanced national revenue (by way of export trade or otherwise), or some other result of public importance at the present time.

Ministry of Health Contract.

Will architects who have used the Form of Contract No. 3 issued by the Ministry of Health kindly communicate with the secretary of the R.I.B.A.?

Continental Buildings

Dr. Douglas Stanley, in reading a paper on "Continental Buildings" before the Birmingham Architectural Association, dealt generally with the Romanesque buildings of Southern France, and more particularly with the monasteries and abbeys of that period. The Abbey of Moissac, which, like many of the great abbeys that flourished between the eleventh and fifteenth centuries, was built on the site of an earlier foundation, probably Merovingian, was the first to be described. The first Romanesque abbey, built by Abbot Durand and consecrated in 1063 A.D., was almost totally destroyed by fire. Towards the end of the twelfth century, however, the abbey was rebuilt, the portions not destroyed by the fire being utilised in the new structure, and the magnificent west door, which had survived, being moved to the south side.

The cloister, the finest in France, was probably first built in the middle of the twelfth century, and the carving of the capitals of the columns is particularly rich.

The cloister of St. Lizier, which is much smaller than Moissac, was next described. This cloister dates entirely from the eleventh century, and its columns and capitals are very beautiful in shape and design.

St. Bertrand de Comminges, in the Pyrenees, another of the early monasteries resembling St. Lizier somewhat in size and characteristics, is also remarkable for its wealth of beautiful eleventh-century work. The church is particularly interesting. The nave is 225 ft. long, and the walls are so thick that the eleven side chapels built within them cause no excrescence on the outside face.

In listening to Dr. Stanley's paper one was taken somewhat farther afield than by a perusal of the average text-book on the same subject. The architectural information collected during visits to many remote districts of Southern France provided new matter for thought, and reflected great credit upon Dr. Stanley, who, although a layman, displays a keen appreciation of good architecture.

Building Surveyors' and Inspectors' Association

Representatives from a large number of towns attended a special general meeting of the Building Surveyors' and Inspectors' Association held in Liverpool, and a keen interest was shown in the meeting by the receipt of letters and telegrams of congratulation from members in distant areas. The hon. sec. (Mr. William A. Warwick, M.R.S.I.) reported that nineteen new members had been enrolled since the last meeting, and that he had also received a considerable number of enquiries from all parts.

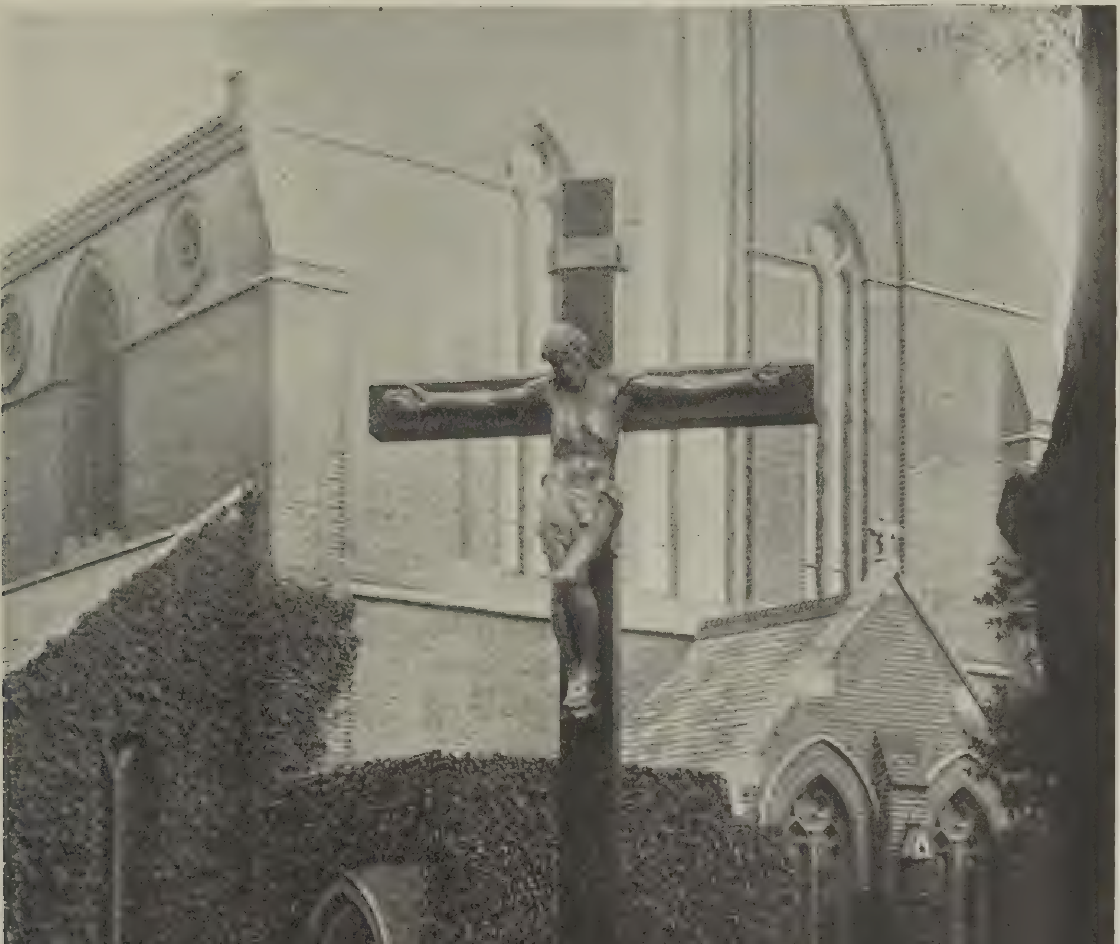
The chairman reported that he had attended the joint consultative committee of the National Whitley Council, and at a sub-committee of the above relating to the National Grading Salary Scheme for Sectional and Technical Officers. The work of the sub-committee is that of co-ordinating the various scales, and the result of the last meeting was a grouping in four divisions of allied Associations. These four groups will meet strictly to consider their scales with a view to forming one scale for each allied group. This Association will be in the group of Associations with, and allied to, the engineers and surveyors as represented by the Municipal and County Engineers' Association. This grouping has considerable merit, and is looked upon as the means of a national scale being formed for all technical branches of the public service for submission to the National Whitley Council.

The Late Mr. Henry T. Hare

The funeral of the late Mr. Henry T. Hare, F.R.I.B.A., at the Golder's Green Crematorium was well attended by members of the architectural profession, among those present to pay their last respects being: Messrs. John W. Simpson, President R.I.B.A.; W. Gillbee Scott, Arthur Ashbridge, G. E. S. Streatfield, John Slater, Max Clarke, G. Hornblower, D. Barclay Niven, Louis Ambler, Horace Cubitt, W. A. Pite, Herbert Shepherd, Alan E. Munby, Arthur Keen, hon. secretary R.I.B.A.; E. Guy Dawber, H. D. Searles-Wood, C. Wontner Smith, Delissa Joseph, Ian MacAlister, secretary R.I.B.A.; F. R. Yerbury, secretary A.A.; and H. V. Ashley. Letters of regret for inability to attend were received from: Sir William Emerson, past president R.I.B.A.; Sir Ernest George, R.A., past president R.I.B.A.; and Messrs. Ernest Newton, R.A., Edwin T. Hall, and C. B. Flockton.

War Memorials. 12.—Cross in St. Saviour's Church, Eastbourne

Colin Hay Murray, A.R.I.B.A., Architect. Alfred J. Oakley, Sculptor



This memorial reveals the happy combination of design resulting from the co-operation of architect and sculptor. The total height is about 16 ft., the lead figure being 5 ft. 6 ins. high. Brick and stone were selected as materials for the base in order that the memorial should harmonize with the church, which was designed by the late G. F. Street, R.A. Following from that, lead appeared to be the most natural material for the figure and for the foliage around the foot of the cross—the cross itself being made of teak, the top and the upper surfaces of the arms of the cross being protected with sheet lead. The top of the octagonal base is also covered with sheet lead.

Students' Prize Essay Competition Awards

Assessor's Report and Winner's Essay

STUDENTS at the University College School of Architecture were invited by the proprietors of THE ARCHITECTS' JOURNAL to write competitive essays of architectural interest on the subjects that are indicated in the next paragraph.

The Literary Editor of the JOURNAL, who was asked to act as assessor in the competition, reports that of the thirteen papers entered seven were on "The Value of Tradition in Architectural Design," three on "The Spirit of the Renaissance," two on "Quality in Architecture," and one was entitled, "The Awakening of Architectural Vision."

The contest was very close, and the assessor had very great difficulty in selecting the winner. In his opinion, the best essay, all things considered, is that of Mr. J. T. W. Greenidge, who excels in orderly development of theme, in simplicity and fluency of style, maturity of ideas, soundness of deduction, sense of proportion. To him is awarded the first prize, consisting of five guineas' worth of architectural books.

Several other competitors scored almost as many marks as the winner, notably Mr. P. H. Fielder, who sends an admirably clear and straightforward essay on "The Value of Tradition in Architectural Design." To him, on the assessor's recommendation, is awarded a book as an additional prize.

It is rather unfortunate that the essays were not distinguished by pseudonyms. Not that the competitors' names could have the slightest influence on the awards, the assessor not having the pleasure of knowing any of the competitors personally, but, obviously, criticism of the essays, one by one and point by point, would be a very delicate matter where the sole means of indicating what paper is being criticised is to name its author, whom in no instance could we consent to place in the pillory, even if we thought he deserved it. Speaking generally, however, it may be said that the papers reach a fairly high standard of merit both in substance and in treatment. To this rule there is not a single exception, and it has been indeed a very great pleasure to read through a batch of such uniformly excellent papers.

Below is the essay to which the first prize has been awarded.

The Spirit of the Renaissance in Architecture

By J. T. W. GREENIDGE

Le ciel, usant de liberalité,
Mist en l'esprit ses semences encloses,
Son nom des Dieux prist l'immortalité.
—Du Bellay.

At all times art must present itself to us as a complete unity. There is only one art in however many aspects it may reveal itself to our senses, but to find, not its universal formula, but the formula which expresses most completely this or that manifestation of it, is the aim of the true artist.

The Renaissance embraced all phases of art. Painting, sculpture, and architecture are no more important developments of it than are literature and contemporary life and thought. Each aspect has in itself a definite though inter-related significance, and it is essential in dealing with one medium not to lose sight of the influence of the others. In the same way that at Pompeii one finds the luxury of every-day life being voiced in indulgent architecture, so the scholarship and romanticism of the Renaissance are reflected in contemporary buildings. Thus the spirit of the Renaissance in architecture is the spirit of the Renaissance in general.

As its name implies, the movement was a "rebirth." Nothing new was created; no modern ideas were sprung upon the unsuspecting world. But one finds a widespread intellectual craving after something as yet undefined. Fundamentally it seems as if the movement sprang from a changed point of view. Was the Gothic style the only means of expressing beauty in stone? Might not other types rise to the same pitch of excellence?

Scholasticism, which in these days implied the Church and all concerned with it, had stereotyped thought and expression, till it became the very medium of life itself. The so-called twelfth century Renaissance is redolent with it. Abelard, one of its chief figures, is confined both in his works and private life by the austere walls of the monastery.

Such limitations as these naturally gave rise to a bid for variety and freedom—freedom from the prisondom of the monastery, in architecture from the tyranny of the Gothic, and in popular thought from the doom of hell and purgatory.

Free-thinkers and free-doers were the pioneers of the Renaissance. It was found that tradition, excellent in moderation, might become a snare and a delusion in itself. Why must the design of the architect be tied down by the bonds of custom?

Such questions as these presented themselves almost with the force of despair. Inspiration was needed, and it was found close at hand. People began to realise that the Roman and Græco-Roman masterpieces around them, familiar to such an extent as almost to be totally ignored, might prove sources of inspiration for design as well as quarries for building stone. Vandalism was denounced as men began to realise that these monuments had more than a utilitarian value.

From these changes of attitude it was but a short step to the great "Reversion to Type"—the inspiration of the classical model. As Du Bellay says:

"Tu jugeras, que le daemon Romain
S'efforce encor d'une fatale main
Ressusciter ces poudres ruines."

Such realisations as these mark the dawn of scholarship in all intellectual activities. The torch that Dante, Petrarch, and Boccaccio kindled from the dying embers of classical civilisation gave light to Brunelleschi and the early fourteenth-century builders. Nor was this awakened conception of beauty confined to Roman influence alone. The secret of Renaissance work relies on a combination of the strength of Rome, the delicacy of Greece, and the warmth and mysticism of the East.

Personality counted for much, and undoubtedly the leader of the new faith was Brunelleschi. His adoption of the classical form was perhaps predominantly an appreciation of its intrinsic artistic merit However, there seems to be some deeper impulse that stirred him, akin to that which led Dante and Petrarch to revive the flowing rich style of classical feeling. A realisation of the secret of matured Greek and Roman work, the subtle combination of strength and exquisite delicacy must have been borne in upon his mind. This, however, does not imply mere restoration. Whatever the early Italians borrowed from Imperial Rome they always, subconsciously, stamped with their own characters and the spirit of their time. For conditions of time and space are always imposed on individual genius. This it is which constitutes the element of change in art. "The artist is the child of his time."

On the other hand, there was, and must always be, a permanence of standard. Good taste cannot vary any more than human nature itself. In such a way one can realise how the finest of Rome's productions could be transformed into the exquisite harmony of the Italian builders, carrying on the tradition of taste according to the requirements of more modern conditions. When once such a reversion to type is established tradition becomes a constant source of danger. When one finds the later Italian builders looking back to Bramante as their fountainhead instead of to Rome the atmosphere of decadence closes round them. Second-hand inspiration may be worse than none, unless, perhaps, the later genius be as great as the first, as in the instance of Boccaccio and Chaucer.

We can invent nothing new in architecture. This is as true to-day as it was in the fourteenth century. We can only go to what our discrimination and taste tell us is of tried and proven value, be it classical or Renaissance, and modify it to our own requirements.

To us, then, the Gothic means mediævalism, and the Renaissance scholarship—the door which opened on the human mind and flooded it with the light whose absence had made the "Dark Ages" dark. At last it was possible for the materialism of the Middle Ages to sink and leave the spirit of intellectual freedom to assert itself in men's minds. The architecture of the Renaissance essentially interprets this emancipation. Art could now be relegated to its proper sphere as an interpreter of life and not the highest manifestation of life itself. Even as people learnt to live lives of harmony, colour, and beauty, so their architecture became harmonious, variegated, and beautiful. One may be able to tell a man's character by his face: one can certainly sum up an age in its architecture.

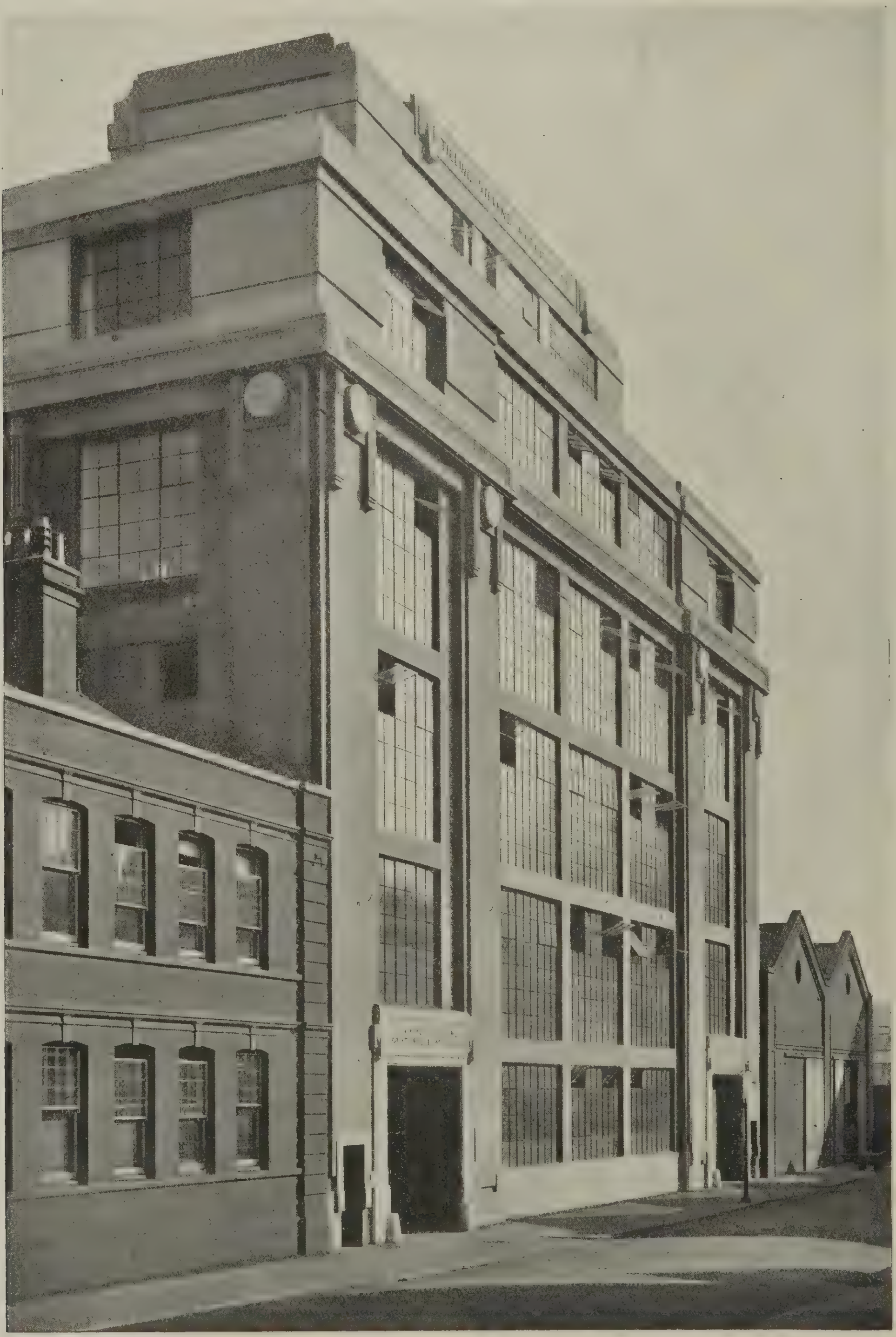
[The Organising Editor would have liked very much to accede to the assessor's suggestion to publish a few more of the essays submitted in this competition, but limitation of space deprives him of that pleasure.]

The Utility of Reinforced Concrete

REINFORCED concrete is now so widely employed for all manner of building and engineering structures that one has some difficulty in realising that it is barely seventy years ago that Wilkinson introduced the use of reinforced concrete proper with his patent system of floor construction. Since those days much steel has been embedded in concrete, and the industry has made extraordinary progress—as much scientifically as materially, which is saying a very great deal. From those early times, when reinforced concrete was looked upon with suspicion and distrust by the devotees of bricks-and-mortar, to the present day, when the outlook is completely reversed, is, progressively regarded, a far cry. A few years ago a reinforced concrete building was the exception; to-day it is the rule.

Nor is the use of the method confined to buildings only; it has proved its suitability to almost every kind of structure—water towers, bridges, retaining walls, piers, quays, bunkers, gantrys, reservoirs, locks, dock gates, and even ships, among scores of other types of structure, standing as testimony to the adaptability of the material. All this is very satisfactory, and does much credit to those who persevered against opposition and prejudice in the early days of the industry, as well as to those who have since directed and taken part in its enormous development.

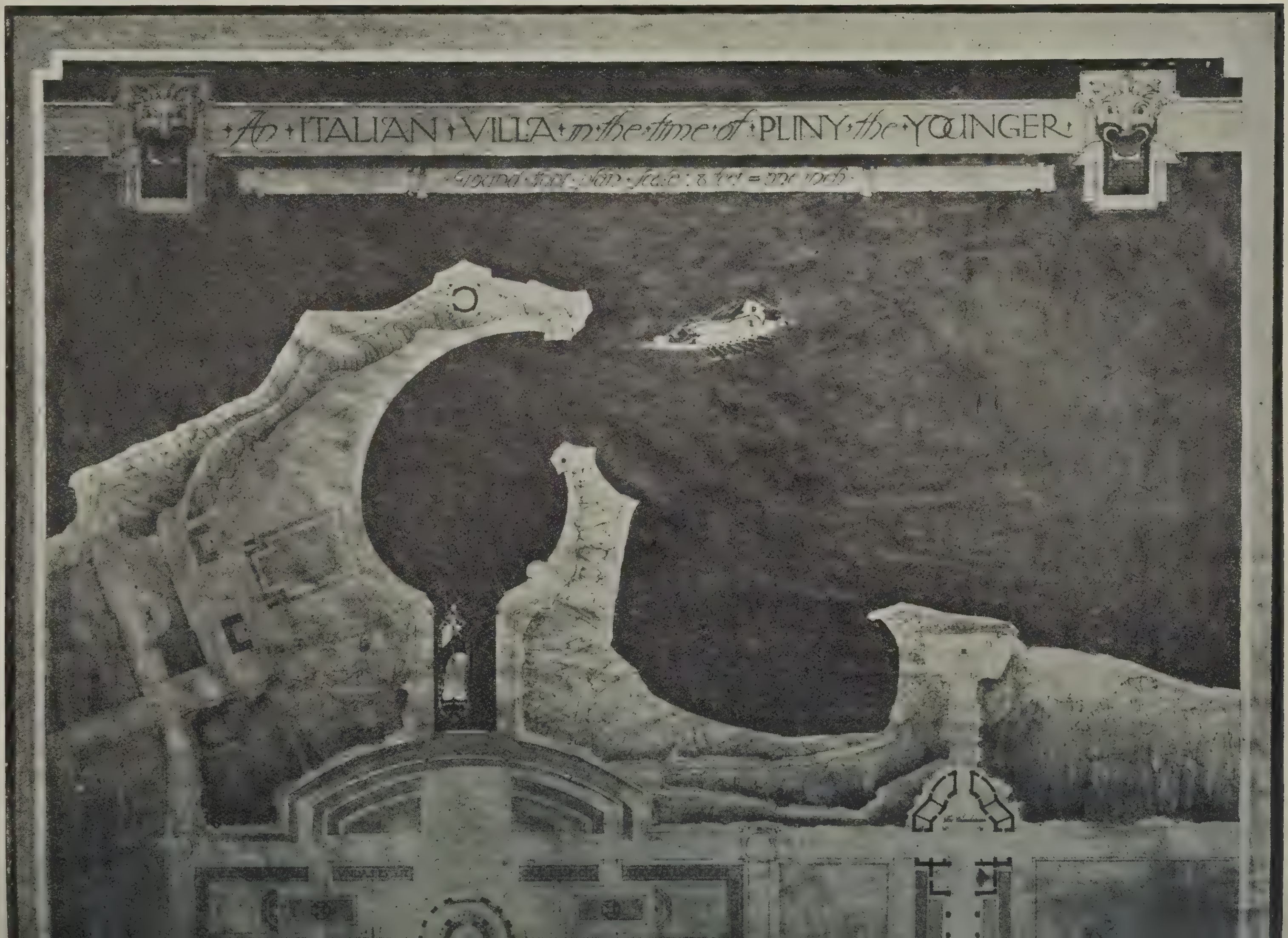
We are moved to these reflections by two excellent brochures, entitled "Kahn System Illustrated," which are now before us—one dealing with Engineering and the other with Architectural structures. The former is of interest mainly for its revelation of the great variety of purely utilitarian structures to which reinforced concrete is appropriately adapted; and that

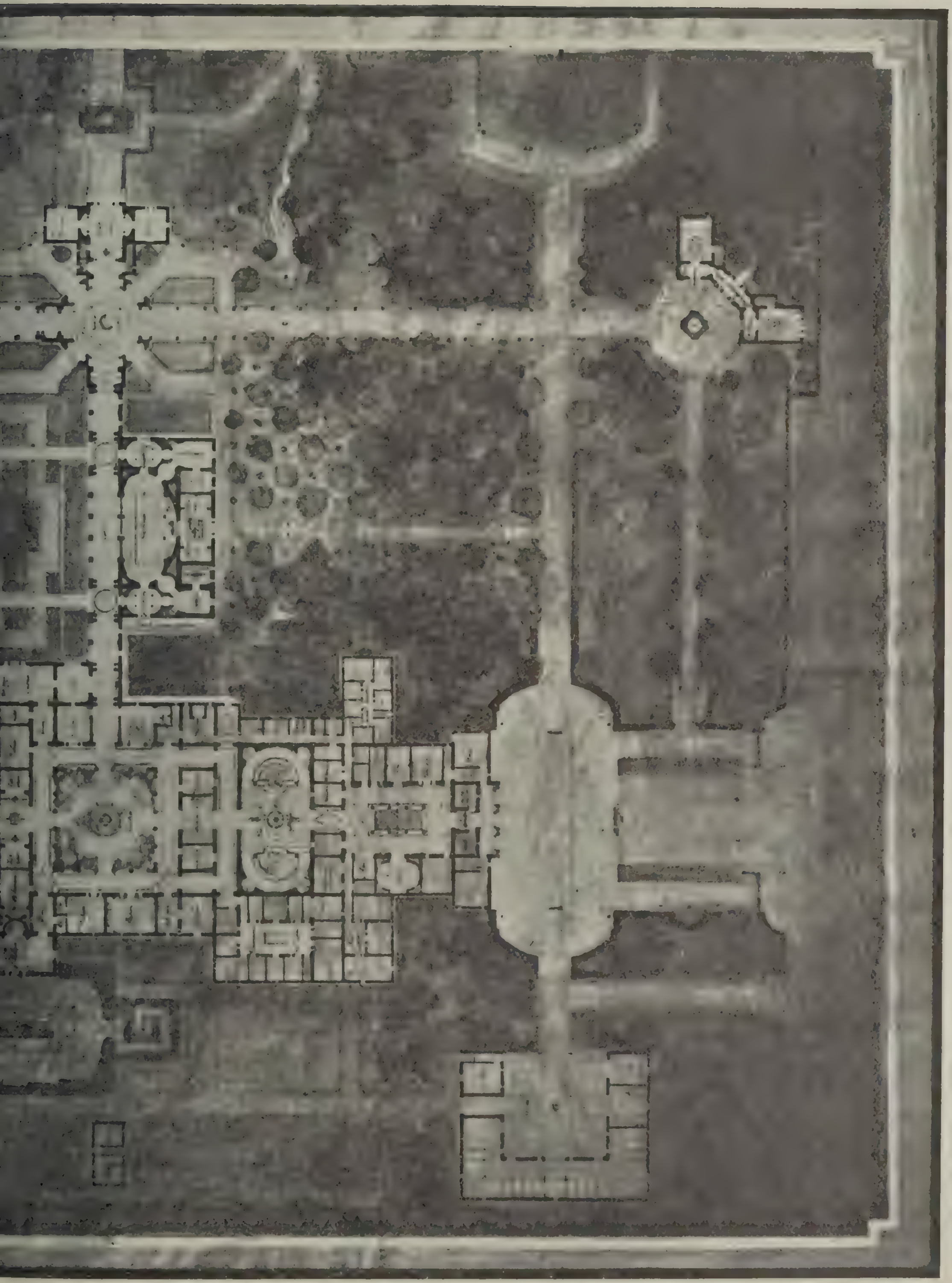


NEW WORKS FOR TILLING-STEVENS MOTORS, LTD., MAIDSTONE, KENT.
WALLIS, GILBERT, AND PARTNERS, ARCHITECTS.

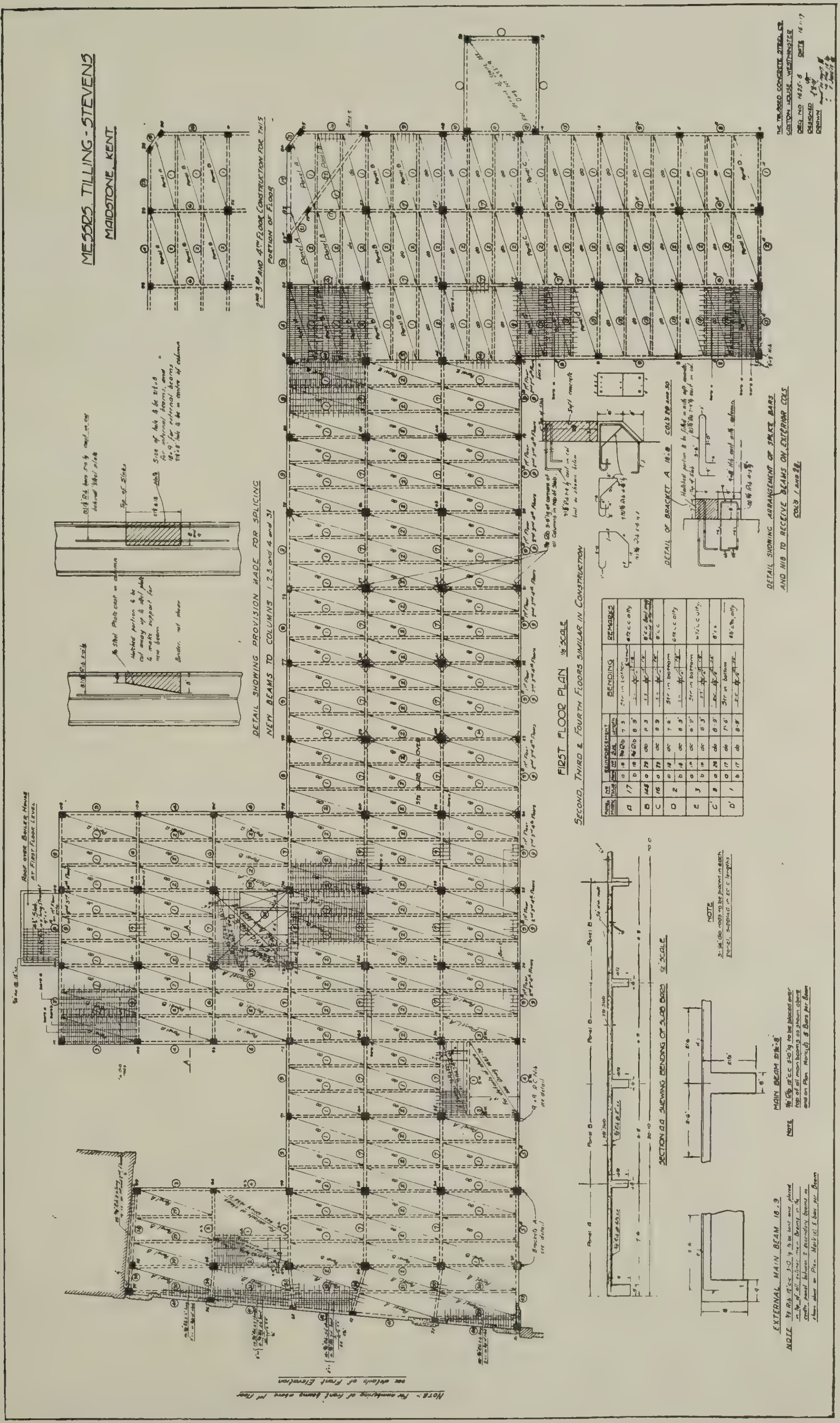
Architectural Designs. 8.—The Tite Prize: Plan of Winning Design

By Gordon H. Holt

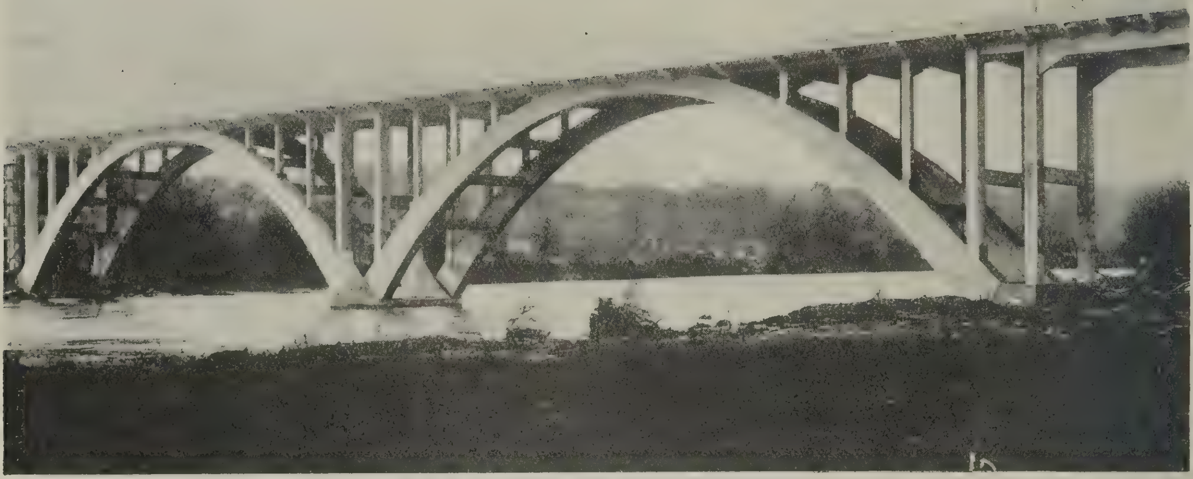

An ITALIAN VILLA in the time of PLINY the YOUNGER
Ground floor plan scale: 8 feet = one inch



Mr. Gordon Holt has carried off the Tite Prize with a brilliant design in the manner of a Roman Villa. Some explanatory notes, kindly provided by the author himself, appear on page 90, while on page 89 a special contributor offers a few words of critical comment.


MESSRS TILLING-STEVENS
MAIDSTONE, KENT
2ND 3RD AND 4TH FLOOR CONSTRUCTION FOR THIS PORTION OF FLOOR
DETAIL SHOWING PROVISION MADE FOR SPLICING NEW BEAMS TO COLUMNS 1, 2, 3 and 4 and 31
ROOF OVER BOILER HOUSE AT FIRST FLOOR LEVEL
FIRST FLOOR PLAN
SECOND, THIRD & FOURTH FLOORS SIMILAR IN CONSTRUCTION
DETAIL OF BRACKET A
SECTION AA SHEWING BENDING OF SLAB BARS
NOTE
MAIN BEAM
EXTERNAL MAIN BEAM
DETAIL SHOWING ARRANGEMENT OF SPLICE BARS AND NIB TO RECEIVE BEAMS ON EXTERIOR COLS
REMARKS
BENDING

NEW WORKS FOR MESSRS. TILLING-STEVENS, LTD., MAIDSTONE, KENT: CONSTRUCTIONAL DETAILS.
WALLIS, GILBERT, AND PARTNERS, ARCHITECTS.



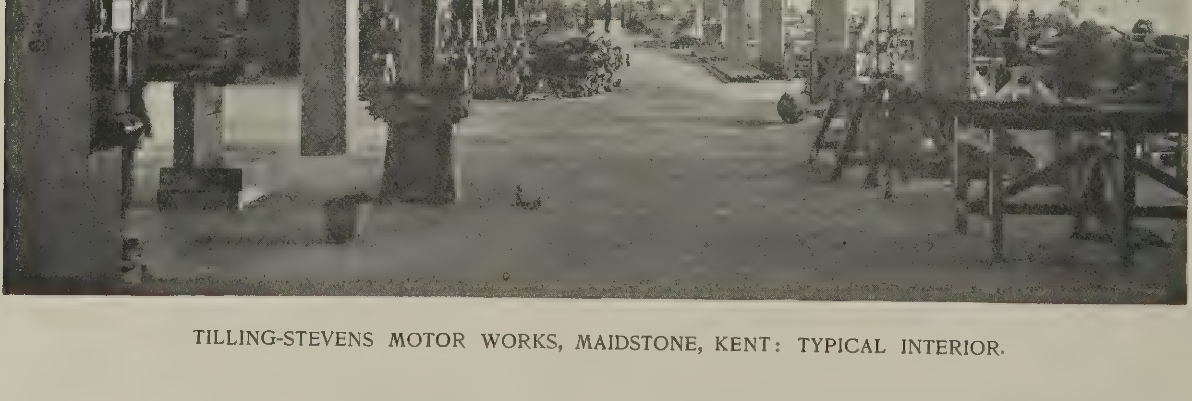
BRIDGE OF NINETEEN SPANS OVER BRANCH OF THE BROAD RIVER AT ASHVILLE.

utility need not necessarily mean ugliness is clearly shown in many of the illustrations, particularly those of water towers and bridges. Some of the former are quite fine architecturally, particularly those at Alton Beach, Florida; while in the latter category the bridge at Ashville stands to show the impressive effect that accompanies the apt use of purely structural forms. The same remark applies to the City of New York College Stadium, which is of sufficient interest, æsthetically, to be included in the Architectural Section.

It is to the Architectural Section, naturally, that we turn with most interest. Here we find a great variety of fine buildings in which the Kahn system has been employed. Many of these are reinforced concrete in skeleton only, with stone, brick, or other facing—for example, the Scottish Union and National Insurance Company's offices, Leeds (Perkin and Bulmer, FF.R.I.B.A., architects); the Cunard Building, Liverpool (Willink and Thicknesse, FF.R.I.B.A., architects); the Central Hall, Westminster (Lanchester and Rickards, FF.R.I.B.A., architects); Aldine House, Buckingham Street, London (E. Keynes Purchase, F.R.I.B.A., architect); and Y.M.C.A. Premises, Edinburgh (G. Washington Brown, R.S.A., architect). But on the other hand, numerous buildings wholly of reinforced concrete are shown, these being mostly of the factory type.

The architectural treatment of reinforced concrete is a subject that has been frequently debated, but never to a wholly satisfactory conclusion. Nor have the various attempts at architectural design in reinforced concrete been altogether successful. In the past, it has not been realised with sufficient clearness that concrete is unsuitable as a medium for conventional expression; that historical forms and motifs, apart from those of structure—arch, dome, beam, column—do not lend themselves readily to interpretation. In other words, if architectural elevations in reinforced concrete are to be thoroughly expressive of that material, the whole problem must be approached from a new point of view, and a solution be sought, not in decorative devices peculiar to stone and similar workable materials, but in broad effects of mass, with surface finishes and flat or low relief treatment generally. We are happy to record that these essentials have been appreciated by certain architects, notably by Messrs. Wallis, Gilbert, and Partners, whose designs for reinforced concrete factories are among the best that have ever come to our notice. The new works for Messrs. Tilling-Stevens, at Maidstone, illustrated in this issue, provide a good illustration of what may be done in the way of a satisfactory and thoroughly expressive architectural treatment for reinforced concrete elevations.

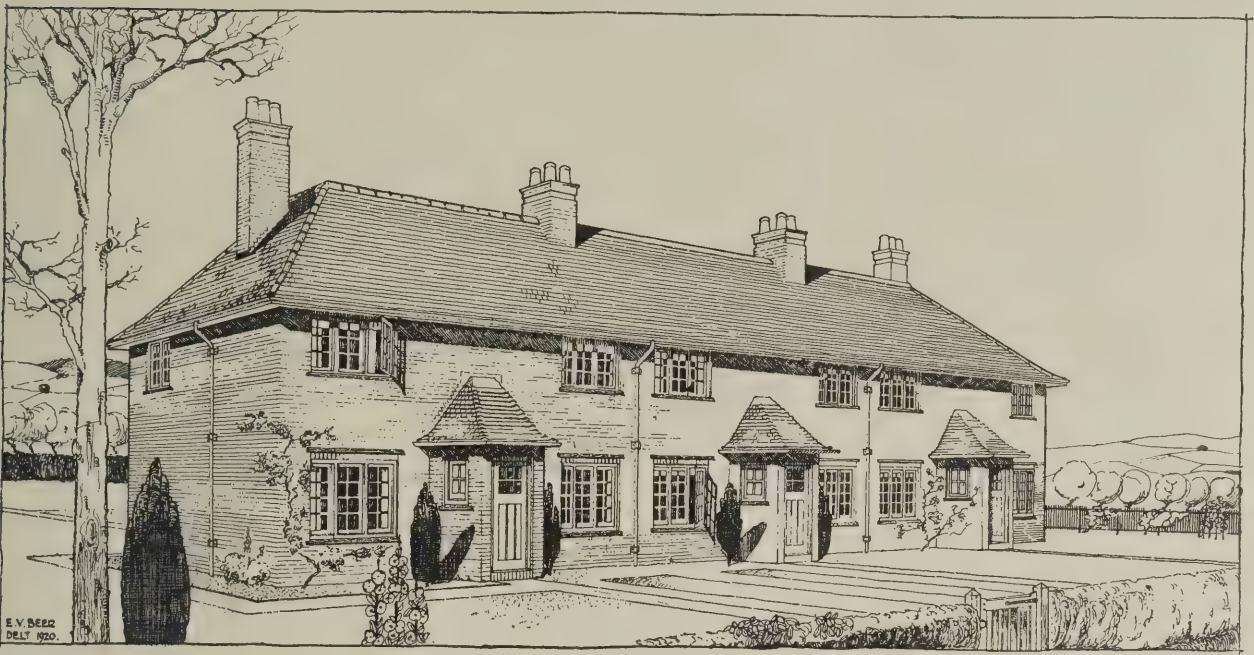
Both brochures are finely produced, and contain scores of admirable photographic illustrations representative of the 15,000

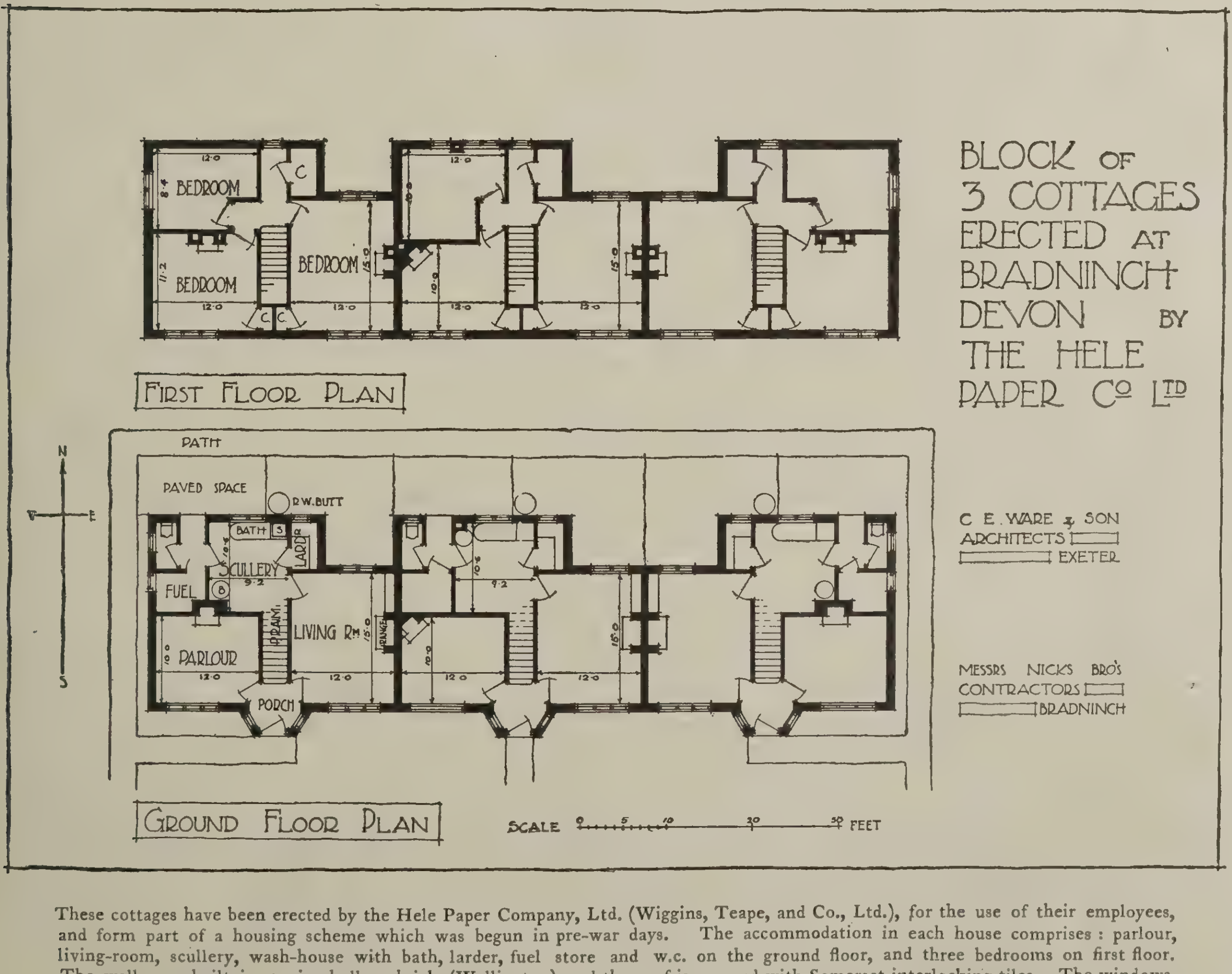


TILLING-STEVENS MOTOR WORKS, MAIDSTONE, KENT: TYPICAL INTERIOR.

Modern Domestic Architecture. 25.—Block of Cottages at Bradninch, Devonshire

Charles E. Ware and Son, Architects





These cottages have been erected by the Hele Paper Company, Ltd. (Wiggins, Teape, and Co., Ltd.), for the use of their employees, and form part of a housing scheme which was begun in pre-war days. The accommodation in each house comprises: parlour, living-room, scullery, wash-house with bath, larder, fuel store and w.c. on the ground floor, and three bedrooms on first floor. The walls are built in 11 in. hollow brick (Wellington) and the roof is covered with Somerset interlocking tiles. The windows, which are casements, are entirely of wood and painted white, and the remainder of the woodwork and the ironwork is painted green. The contract price of the complete block, including water supply, paths, and entrance gates, was £3,080. Messrs. Nicks Bros., of Bradninch, were the contractors.

odd structures that have been erected on the Kahn system. They contain also some excellent introductory letterpress, setting forth briefly but very clearly the principles of reinforced concrete construction, and the advantages attending its employment, together with illustrations and descriptions of typical Kahn reinforcements. The brochures, which should make a very valuable addition to the technical libraries of architects and constructional engineers, are published by the Trussed Concrete Steel Company, Ltd., 22 Cranley Gardens, South Kensington, S.W.7.

The following notes on the new Tilling-Stevens building at Maidstone are of special interest:

Situated on the banks of the Medway, the new works at Maidstone dominate the town, and cannot fail to catch the visitor's eye. The building itself is five storeys high. Exceptional transport facilities exist, the rear end of the works being skirted by a well-equipped wharf fronting the deep water of the river Medway, whilst a private siding from the South-Eastern Railway connects with the main line from London to the coast.

The building, which has a floor area of over 190,000 sq. ft., is centrally heated throughout, and is equipped with an essentially modern plant. Work progresses through the shops from the top storey to the ground floor, where the chassis erecting shop is situated, access being gained to the upper floors by electric lifts, each having accommodation for approximately sixty persons.

Power is transmitted to the shafting by means of a series of motors suspended from overhead on each floor; a continuous wooden platform runs from end to end of each shop under the motors and driving pulleys, thus partially encasing them and preventing oil, etc., from dripping on to those passing below. The installation comprises a sub-station which receives its supply from the town mains. On the top floor are situated the hardening processes and sand blast, and, by descending to the lower floor, one passes through the tool room and machine shop. The tool room is provided with its own drawing office and is devoted solely to the production of the necessary special tools, jigs, and fixtures.

The third floor is a continuation of the machine shop, engaged in the production of chassis parts. On the second floor is situated the sheet metal and tinsmiths' department. Here, among other items, the necessary petrol tanks, bonnets, and trays are produced. On the next floor, one passes first through the electrical department, which is more or less self-contained, and is engaged in the production of electrical equipment required in the petrol-electric chassis. Other unit shops are the engine building, gear box, and back axle departments, all of which are engaged in building complete units to be eventually sent downstairs for assembly in chassis, the engine being first passed through to the engine-testing department.

The factory is equipped with a spacious inspection department provided with modern devices for ensuring the accuracy of work after each operation. The workmen's dressing accommodation is a feature of the planning arrangements, and a separate metal cupboard is allotted to each employee. The cleansing facilities are excellent, and a plentiful supply of hot and cold water is available.

A sick bay, replete with all surgical appliances, is provided in case of accidents, and is in charge of a competent staff.

Enquiries Answered

Concrete Block Construction.

Bedford writes: "I propose building a cottage with 10 in. walls, composed of 4 in. concrete blocks for inner and outer walls, with a 2 in. cavity; and have available a quantity of sandstone of a moderately coarse grit, which I suggest could be crushed and used as an aggregate. The outer wall will be made with a waterproofed cement, and the blocks set in cement mortar. (1) Is this aggregate suitable for inner walls, or is there danger of condensation? The walls will be plastered inside. (2) I propose using 10 in. throughs at the window and door openings made with waterproofed cement. Are these likely to conduct moisture from outside to inside of walls? (3) Do you advise the cavity being provided with ventilation or should it be sealed?"

—(1) This aggregate is suitable and should not be conducive to condensation more than alternative aggregates. (2) If properly waterproofed the "throughs" should not conduct moisture to the inside, but it is not advisable to use them; the better method being to carry the cavity up to the door and window frames, taking special precautions to protect the heads from damp condensing in the cavity. (3) The cavity should be ventilated.

W. S. B.

Acid-resisting Treatment for Concrete.

Junior writes: "Please give me the name of any firm who supply a treatment to be used with concrete which will effectively resist (permanently) the damaging effects of brimstone fumes, or tell me what is the best acid-resisting concrete."

—There is no treatment which will make concrete absolutely and permanently fume—and acid—proof, but its resistance can be greatly increased by the use of one of the many patent hardeners, such as "Lillington's Metallic Liquid" or "Lapidolith." Lillington's No. 5 Metallic Liquid, manufactured by Messrs. George Lillington and Co., 40 Holborn Viaduct, E.C.1, is applied either to old concrete or when the new is hard and set in two coats, with an interval of two days between them. The surface should be thoroughly clean, and care taken that as much as possible of the first coat of the liquid is absorbed by the concrete, so that all the pores are filled up and sealed. This prevents acids penetrating the surface and disintegrating the concrete. "Lapidolith," sold by Messrs. Building Products, Ltd., 5 Columbia House, 44-46 King's Road, Sloane Square, S.W.3, which must be mixed with the concrete when laid, has a similar effect.

W. S. B.

Weather-proofing an Upper Story.

A. L. N. R. writes: "(1) In a very exposed seaside position on the south coast it is desired to erect a house with the upper storey timber-framed and weather-boarded—over 11-in. hollow brick walls on the ground floor. Can this be made weather-tight, and what special measures are necessary? Strict economy has to be kept in view. (2) Is there a contrivance on the market by which, when ordinary side-hung wooden casements are used, one pane can be made to open independently?"

—(1) To prevent the penetration of rain under the pressure of heavy winds it would be advisable to cover the timber framing with a rainproof material under the weather-boarding. Ordinary roofing felt, "Waterp" felt, Willesden paper or canvas, or "Ruberoid" could be utilised for this purpose. It would also be advisable to treat the weather-boarding with a preservative and damp-proofing liquid such as "Solignum" or Lillington's No. 6 Liquid. (2) Yes. Any of the well-known metal casement-manufacturing firms could supply a light metal sash to fit into the rebate of the wood-glazing bars with a small casement stay and fastener, so that one square could be opened independently. This would be made very light, so that it would not look unsightly from the exterior. The small metal sash would have to be specially made to suit the size of the square in the wood casement.

W. S. B.

Hoods for Architectural Degrees.

Old Subscriber writes: "Please tell me the shape, material, and colours of the B.Arch. hoods of the Liverpool and London Universities."

—The hood of the B.Arch. Degree at Liverpool is of black silk with a white silk lining on the lines of the Cambridge M.A. hood, but with a narrow black velvet edging to the white lining. In the Liverpool tradition, too, the gown is for formal occasions made to agree with the hood by having in this case white silk facings down the front of it. These white facings have also the narrow black velvet line. This hood of black and white was designed by Professor C. H. Reilly, F.R.I.B.A., with a view to indicating something of the character of the work of the School of Architecture at the University, while keeping to heraldic colours. There is no Bachelor of Architecture degree in the University of London, but a B.A. degree with honours in architecture. Graduates who obtain this degree wear the ordinary B.A. gown and hood.

Jointless Flooring.

Subscriber writes: "Can you advise me on the composition and method of laying jointless floors, similar in character to patent floors such as "Linolith," "Marbolith," "Thermos," "Durato," etc.? The flooring is required in a public institution situate in an out of the way district. A competent works department is employed, but outside firms are at a considerable disadvantage owing to shortness of labour."

—The following formula gives the proportions in dry bulk of a jointless composition flooring with a basis of wood fibre or flour: Magnesite, 1; wood fibre, $1\frac{1}{2}$; chalk, $\frac{1}{8}$; asbestos, $\frac{1}{4}$. This is amalgamated with a 23 solution of chloride of magnesium measured with a Bome hydrometer to the consistency of a thick paste, with about equal parts of the formula mixture and the solution. About 10 per cent. of an earth colour should be added to tint the flooring, and red gives the best effect. The flooring can be laid either on concrete or boarding, but if on the latter small nails should be driven in the floor boards projecting about $\frac{1}{4}$ in. at about 9 in. centres to form a key. The flooring is laid in one layer about $\frac{1}{2}$ in. to $\frac{7}{8}$ in. thick as desired in a mastic state, well pressed down, and floated to a smooth even surface. It should be allowed about three to seven days to dry, and then rubbed down and polished. The life of floors of this description depends entirely upon the mixing and laying, and it is advisable to place the work in the hands of a specialist firm rather than attempt to do it with labour unused to this class of work. The specialist firm would send down their own material and labour and so would be independent of local conditions.

W. S. B.

High Tension Steels in Reinforced Concrete Design[*]

By H. KEMPTON DYSON

THE tests described below are the outcome of an agitation which commenced some years previous to the war. Certain firms of reinforced concrete specialists had been selling special steels which they contended could be safely stressed to considerably more than ordinary mild steel. They had employed their reinforcements in works which they had designed, where they had adopted such higher stresses, but the then proposed regulations for reinforced concrete which were being formulated by the London County Council and submitted to the Local Government Board did not permit them to use such higher working stresses. This they considered to be unfair, and they protested vigorously to the various technical societies and in the Press.

The Joint Committee on Reinforced Concrete conducted by the R.I.B.A. took notice of this contention in their Second Report, and suggested that if stronger steel were used the allowable tensile stress might be taken at half the stress at the yield point of the steel, but in no case should it exceed 20,000 lb. per square inch. This, of course, should be compared with the figure of 16,000 lb. per square inch which they advocated as the working stress on mild steel, having an ultimate tensile strength of 28-32 tons per square inch.

The L.C.C. Regulations

The Concrete Institute was one of the chief bodies concerned with the criticism of the Regulations of the London County Council when they were in draft. They supported the contention of the specialist firms interested, and agreed with what had already been advocated by the British Joint Committee, in suggesting that for special steels, such as medium carbon steel and drawn steel wire, a working stress of 20,000 lb. per square inch should be permitted.

The officials of the London County Council and the Local Government Board, however, did not agree with this recommendation; and the Regulations, as finally approved, permit only of the steel being stressed to 16,000 lb. per square inch, and moreover they provide that the steel shall conform to the quality required by the British Standard Specification for steel for bridges and general building construction. This the firms interested considered to be grossly unfair by restricting proper improvement in engineering practice, and they protested to the Concrete Institute very strongly.

Eventually, as a result of the agitation, the Concrete Institute decided to appoint a special Sub-Committee which should report to the Council and upon which all those commercially interested would be represented, together with certain professional members considered to take a somewhat independent view. The writer was appointed Chairman, and explained what had occurred at the Joint Committee meeting, at which the representative of the Engineering Standards Committee and the Institution of Civil Engineers had expressed the opinion (in which some other members of the Joint Committee concurred) that it would be desirable to endeavour to settle the controversy by means of tests, which would be conducted by some independent body, and therefore would not be open to the criticism that they were made by the firms interested in marketing special steel. The Committee came to the conclusion, therefore, that it was desirable to conduct such tests in order to determine if the claims were really justified.

Results of Tests

The test records show that if we are content with the same factor of safety for high tensile steels, then it would be right to design (as compared with the working stress of 16,000 lb. for mild steel) for work-stresses of 22,000 lb. per square inch for medium carbon steel and 21,500 lb. per square inch for "twisted" steel bars, and 25,000 lb. per square inch for drawn steel wire of the qualities employed in these particular tests, but the specialist firms who have been pioneers in promoting the use of such steels have never asked for such high working stresses. They have been content to be permitted to employ a working stress of 20,000 lb. per square inch on special bars. These tests substantiate their contention and support their argument that with such stresses a higher factor of safety is really given than with mild steel reinforcement.

As regards the question of the deflections being greater, consequently the cracks larger, the tests show that the deflections certainly were greater, because, of course, the loads sustained by the beams were bigger; but the tests bring out quite clearly that in all cases the increased stress developed in the steel did not result in larger cracks, but only in a greater number of cracks, therefore the argument, that by using a higher stress the steel would be exposed more to corrosion, falls to the ground.

As regards the tests on the T beams, the writer thinks that these failed to show any of the supposed advantage that there might be in the smaller sizes of reinforcement. That is to say, the test results do not appear to show any increased resistance to shear even when drawn steel wire was employed.

The writer would like to add some personal observations of his own, for which, it must be clearly understood, the Committee accept no responsibility. He hopes that these tests may be accepted as sufficient evidence by the societies, London County Council, and the Ministry of Health, to warrant the sanction of a higher working stress for special steels.

The tests on the slabs bring out clearly certain points which have been noticed in other tests, and serve to illustrate a point which the writer desires to emphasise. It has long been argued by practical exponents of reinforced concrete design that slabs, as commonly designed and constructed, are one of the strongest parts of reinforced concrete construction, and that as regards their compressive resistance, they are much stronger than theoretical calculations would indicate, that is to say, that a much higher percentage of steel could be employed without failure of the concrete. Evidently, if this is so, the determination of the stresses in the concrete is in error. The primary difference is probably due to the efforts of certain academic engineer professors, who have for some decades advocated the design of beams for working stresses, such working stresses being reduced by dividing the ultimate strengths of the materials by a factor of safety, instead of following the procedure of the earlier engineers—practical men who did an enormous amount of construction and obtained their knowledge from actual experience; such older engineers experimented to find the ultimate resistance of beams and other parts of structures, and then adopted as the working load for such members a load which was obtained by dividing the ultimate resistance by the factor of safety. It is very difficult to determine what are the real stresses in the material at intermediate stages in the loading of such tests as have here been described, but the conditions at the point of ultimate failure are more readily ascertained.

The Modular Ratio

It will be familiar to all students of reinforced concrete that in the formulæ which are commonly used there is a factor introduced called the modular ratio. This is supposed to be the ratio between the modulus of elasticity for the steel and the modulus of elasticity for the concrete. The tests on these materials show that the modulus of the concrete is continually changing, getting less as the stress increases, whilst the modulus for the steel drops very considerably when the yield-point is passed, and with cold worked steels there is no well-defined yield-point, so that there is no well-defined modulus. It is really not necessary to introduce the modular ratio into the formula at all, and it is suggested that it would be far better to abandon this mysterious variable and calculate always for probable ultimate resistances of beams, and then divide the resistance by the factor of safety, in order to obtain the working load.

Just before and during the war, in a new branch of engineering science, it has been found that a working stress method of calculation had to be abandoned in aeroplane design for the practical method of determining the strength by tests and dividing by different factors of safety, according to the work that the part had to perform.

All our data regarding reinforced concrete beams are derived from tests, and we know very little about what happens at intermediate stages of loading as regards the real stresses in the beams, but we know something definite about the point of failure. If we make our calculations for the ultimate resistance, we shall have to abandon the triangular stress strain distribution for the compression in the concrete and adopt some such figure as an ellipse or a parabola. Personally, the writer favours the ellipse as a nearer approach to the truth. The fact that the stresses are distributed more like the ordinary ellipse in the compression area of the beam accounts for the fact that one can put much more than the usual percentage of steel in slabs or rectangular beams without causing failure of the compression.

These tests illustrate what other tests have done, that as the load increased, the cracks at the centre crept up higher and higher, until the stress passed beyond the yield point of the steel and the steel began to extend considerably. The crack then extended so high that the portion of concrete left to carry the compression was so small that the concrete had to be ruptured.

---

[*] Extracts from a paper read before The Concrete Institute.

In all these tests the steel was never broken. It was the concrete which failed, and yet by estimating an approximate lever arm, one can calculate that the stress in the steel was so great that it was the steel that really was the primary cause of failure. There was plenty of concrete to enable the steel to be stressed well beyond its yield point. The fact that the bars were well hooked at the ends probably enabled the yield point to be extended considerably, though it has been contended by some investigators in the past, who did not properly anchor their steel, that the yield point was the critical factor and that when the yield point was reached the beam was bound to collapse. By their argument, the factor of safety in reinforced concrete was about 2 to 2½, and consequently some engineers thought that in order to ensure a proper factor of safety of 4, a working stress of about 10,000 lb. per square inch on mild steel should be adopted.

Calendars

Calendars are commonly so very unattractive that it comes as an agreeable surprise to encounter examples that not only do not offend against the canons of good taste but actually fill one with a desire to hang them upon the walls. Two such calendars have lately come to hand—from Messrs. Allen Fairhead and Son, building contractors, of Enfield, and Messrs. Troughton and Young, electrical engineers and contractors, of 1 Park Mansions Arcade, Knightsbridge, S.W.1, respectively.

Messrs. Fairhead and Son have produced a calendar that all architects will be glad to have, its peculiar attraction being an excellent photograph of Wren's Temple Bar as re-erected at Theobalds Park, the residence of Sir Hedworth Lambton Meux. Looking at the photograph, one is again reminded of the very beautiful piece of architecture that has been lost to London; but one's regrets on this score are tempered by the consolation that the gateway is at least still intact, and not scattered to the dust as, unhappily, are so many of London's historical architectural monuments. Messrs. Troughton and Young's calendar, while lacking so strong an architectural interest, is extremely attractive, containing a fine reproduction in colours of a picture by Yeend King, entitled "The Road to London," representing a roadside incident, eighteenth-century period, in a setting typically English in its rustic beauty.

Competitions

Chester War Memorial.

The following awards have been made in connection with the city war memorial, to be placed on the cathedral green in St. Werburgh's Street, Chester: First, Messrs. Rayson and Crossley, Oxford; second, Mr. W. Beswick, Chester. Twenty-two designs were submitted.

The following Competitions are Open:

War Memorial, Lockerbie (closing date January 31); R.E. Memorial, Chatham (closing date March 17); Licensed House in a Large Town (closing date January 31); East Ham General Hospital (closing date February 25); Canadian War Memorials in France; War Memorial for Vestibule of High School, Glasgow (closing date January 31). Particulars of these competitions were given in our issue for January 12.

Weekly Housing Report

During the week ending January 14, payment of the Government grant to private builders was made in respect of 573 completed houses. This is by far the greatest number of payments made during any one week since the grant became available, and represents a sum of £136,076. It would appear that completions are now being made much more rapidly, and of 29,963 houses for which Certificate A has been granted, payments have already been made in respect of 5,384. The total amount already paid in grants is £1,468,123, and the total amount to which the Ministry of Health is already committed is £7,270,818. It will thus be seen that a very large sum remains to be taken up during the present year.

New housing schemes submitted to the Ministry during the week numbered thirty-two, bringing the total number of schemes submitted to 11,485. The schemes approved now number 8,898 and comprise about 57,465 acres. Forty-seven lay-out schemes were submitted and thirty-nine were approved during the week, bringing the total number of lay-outs submitted to 7,106 and number approved to 6,527. House plans representing 822 houses were submitted and plans for 1,248 houses approved. The total number of houses represented in all plans now submitted is 278,192, and in the plans approved 271,264. During the week tenders were submitted for 2,730 houses. Tenders for 2,003 were approved, bringing the total number of houses in tenders submitted to 185,708 and in tenders approved to 171,525. Contracts have been signed for 141,068 houses.

Law Report

Action by a Builder

Palmer v. Kensington Maisonnettes, Ltd.

January 14. Official Referee's Court.
Before Mr. Pollock.

Mr. William Palmer, of Munster Road, Fulham, builder, carrying on business as Palmer and Co., sought to recover from the Kensington Maisonnettes, Ltd., of 49 Queen Victoria Street, the sum of £624 7s. 2d. for work done and the preparation of plans in connection with the conversion of a number of houses into flats.

Mr. Farley, counsel for the plaintiff, in stating the case, said that of the sum claimed £443 7s. 2d. represented the balance of an account for building work, including extras, and £181 was for the preparation of plans for the alterations required by the defendants. It was towards the end of 1918 that the plaintiff was first asked to do work for the defendant and the present claim related to the conversion into flats of premises at Queen's Gate Gardens, Albert Road, and Cromwell Road, at the West End, and at Shandos Place, Broadstairs. It was apparently the idea of Mr. Dickenson, who was really Maisonnettes, Ltd., to get the work done as cheaply as possible without the intervention of an architect, and where plans were made by an architect they were made after Mr. Palmer had previously made plans. The defence, said counsel, was a general denial of liability. It started by saying that payment for the work had been made and that in each case there was a written contract. The defendant alleged that it was a term of each of the contracts that there should be no charge for extra work of any kind unless such work was done upon a written order, and that no such order had been given either by Mr. Dickenson or his architect. It was, moreover, said that in the course of the correspondence which had passed between the parties, Mr. Dickenson had at different times said to the plaintiff, "I have told you not to work without a written order," but it was not alleged that there was any agreement to that effect. The verbal statement was not an agreement, said counsel, and plaintiff was right in doing the work if asked to do it by the defendant. It was further alleged for the defence that much of the work was done negligently and with inferior materials, which reduced the value of the property, and a counter-claim was made on the ground that in consequence sufficient rent could not be obtained for the flats.

The plaintiff, whose evidence occupied over two days, in the course of his cross-examination by Mr. Warren (for the defence), said that from the plans furnished by him, accompanied by the specifications, he would have been able to carry out the work to which they referred, as would also have been any other builder. He was unable to produce any receipt from defendant for his plans, nor had he any book entries in regard to them. The plans had not been returned to him, but he was able to carry out the work from memory.

The hearing was adjourned *sine die.*

Land for Southall Houses

Mr. Howard Martin, Official Arbitrator under the Acquisition of Land (Assessment of Compensation) Act, 1919, has issued his award in a claim by the Earl of Jersey against the Ministry of Health, concerning the compulsory acquisition of about thirty-four acres of land at Southall, Middlesex, for housing purposes. The land consists of two enclosures known as Norcutt Field, situate in the parish of Southall, Norwood; a small plot of land adjoining at the western end of Shackleton Road; and a field known as the North Road allotments. The award is in the following terms: "That the acquiring authority is to pay the claimant the sum of £7,450, and I order both parties to pay their own costs." At the hearing of the claim, which recently took place at the Surveyors' Institution, Westminster, Mr. Henry Little, of Queen Street, Cheapside, E.C. (agent to Lord Jersey), submitted a claim amounting to £12,750. Mr. F. G. Baxendale, F.S.I., represented the Ministry of Health, who are acting on behalf of the Southall Urban District Council. On behalf of the Ministry of Health, Mr. G. S. Wain, district valuer of the Inland Revenue, submitted a valuation of the land amounting to £6,803.

Cost of Building Committee

Dr. Addison has appointed a Committee to enquire and report as to the reasons for the present high cost of building working-class dwellings and to make recommendations as to any practicable measures for reducing the cost. The Committee will be constituted as follows: Mr. J. Stanley Holmes, M.P. (chairman), Sir Thomas Robinson, M.P., Colonel J. Ward, C.B., C.M.G., M.P., Sir James Carmichael, K.B.E., and Messrs. Thomas Barron, A. G. Cross, F.S.I., F. G. Gayer, F.I.O.B., James Gibson, F.R.I.B.A., A. W. Jenkinson, C.B.E., W. H. Nicholls, E. H. Selby, F.S.I., J. Walker Smith, M.I.C.E., S. Stranks. Mr. T. H. Sheepshanks, of the Ministry of Health, will act as secretary to the Committee.

The Week's News

Dodworth Housing.

Thirty-six houses are to be erected by the U.D.C.

Housing at Castle Ward.

The R.D.C. have decided to erect houses at Fawdon.

Newquay Housing Loan.

The Ministry of Health have sanctioned a loan of £12,000 for housing.

Housing at Truro.

Twenty-two houses are to be erected by the R.D.C. at a cost of £20,908.

Sixty Houses for Northampton.

The T.C. have decided to erect sixty brick houses at a cost of £772 each.

New Paper Mill for Canada.

In Southern Saskatchewan, a paper mill is to be erected at a cost of £200,000.

Birmingham Housing Progress.

Nearly 2,500 houses are under construction, and 470 have been completed.

Concrete Houses for Newcastle.

One hundred and sixty concrete and fifty-five brick houses are to be erected by the T.C.

Brixton Builder's Will.

Mr. John Smith Peacock, of Messrs. Peacock Brothers, of Brixton, builders, left £11,379.

Housing at Swansea.

Fifty-six of the 108 houses being erected at Tower Hill by the Corporation are roofed in.

Housing at Hull.

Five hundred houses are to be erected for the Hull Corporation by H.M. Office of Works.

Cenotaph for Portsmouth.

Portsmouth has decided upon the erection of a cenotaph in the Town Hall square as a war memorial.

Ampthill Housing Loan.

The U.D.C. have received the sanction of the Ministry of Health to a further loan of £25,000 for housing.

Lanark County Brickworks.

Lanark County Council have been authorised by the Scottish Board of Health to set up as brickmakers.

Orsett Housing Site.

The Ministry of Health have sanctioned the purchase for £2,850 by the R.D.C. of a housing site at Stanford-le-Hope.

Clowne Housing.

The R.D.C. have decided to erect forty-two houses at Clowne, thirty-two at Barlborough, and thirty-six at Whitwell.

Bideford Housing Site.

The U.D.C. are applying to the Ministry of Health for sanction to a loan of £700 to purchase another housing site at Barton.

Castle Ward Sewerage.

A sewerage scheme for Ponteland and Darras Hall, estimated to cost between £4,000 and £5,000 has been approved by the R.D.C.

Building Materials in Peru.

In Peru at the present time there is a good demand for structural steel and other building materials, as a considerable amount of building is in progress and under consideration in connection with the forthcoming centenary celebration of Peruvian independence. Firms interested may obtain a list of the principal dealers in building materials, etc., established at Lima, on application to the Department of Overseas Trade, 35 Old Queen Street, Westminster, S.W.1., quoting 2125/FL/PN.

Housing at Hebburn.

The sod has been cut at Hebburn in connection with the U.D.C. scheme for the erection of 290 houses.

Godstone Housing Loan.

For the erection of houses in various districts of Godstone the Ministry of Health have sanctioned a loan of £73,000.

Mr. Bradshaw's Will.

Mr. William Bradshaw, for some years secretary of the National Federation of Building Trade Operatives, left £543.

Housing at Pallion.

Five houses, part of the scheme of the Sunderland Corporation for the erection of ninety-four, at Pallion, have been completed.

Portsmouth Harbour Scheme.

A scheme is afoot to develop Langstone Harbour as a commercial port for colonial ships. The cost is estimated at £5,000,000.

Death of a Wrexham Contractor.

The death is announced of Mr. Harold Davies, head of the firm of Messrs. Harold Davies and Co., of Wrexham, builders and contractors.

Stone Buildings for Edinburgh.

Edinburgh Corporation have decided that stone shall be used in future for building in the city. This year over 2,040 buildings are to be erected.

Housing at Rosyth.

The Scottish National Housing Company, who were responsible for the erection of 3,000 dwellings at Rosyth, are to build an additional 1,500 houses.

Napier Statue ; New Site.

It is proposed to move the Napier statue from its present position in Waterloo Place to a position in Regent Street, immediately north of Charles Street.

The Rebuilding of Cork.

The Cork Corporation have decided to summon a conference of architects engaged in the rebuilding of Patrick Street in order to work out a harmonious plan.

Change of Address.

The St. James's Advertising and Publishing Company, Ltd., have moved to new premises at 1 Wardour Street, London, W.1. Telephone: Regent 4270 (six lines).

Bath Master Builders' Association.

Mr. Stanley Amar, a director of Messrs. Jacob Long and Sons, Ltd., has been elected resident of the Bath Master Builders' Association, and Alderman A. W. Wills, of Messrs. A. Wills and Son, vice-president.

Bridlington Improvements.

Bridlington T.C. have accepted a tender for the erection of twenty-two bathing bungalows at a cost of £2,681. The Council have also approved several schemes, including a plan for improving the Spa by the provision of a new café and Italian garden.

Bombay Council Chamber Designs.

The Council of the R.I.B.A. invite designs for the proposed Council Chamber to be built in Calcutta for the Legislative Council of Bombay. Premiums of £500, £250, and £100 will be awarded to the authors of the designs, and the winner of the first premium will be appointed to carry out the work in accordance with the R.I.B.A. scale of professional charges.

Whitehaven Castle as Hospital.

The Governors of Whitehaven Infirmary have accepted an offer of an anonymous donor of Whitehaven Castle and £20,000 towards converting the premises into a hospital. It is estimated that a further £10,000 will be required, towards which a local gentleman has given £1,000.

Cardiff Master Builders.

At the annual meeting of the Cardiff Master Builders' Association the following officers were appointed for the ensuing year: President, Mr. Charles Hoare; senior vice-president, Mr. W. F. Gibson; junior vice-president, Mr. Henry Jones; treasurer, Mr. Edgar Griffiths; auditor, Mr. H. B. Tucker.

Incorporated Clerks of Works Association.

Presiding at the annual dinner of the Incorporated Clerks of Works Association at the Holborn Restaurant, Mr. J. W. Simpson, president of the R.I.B.A., said that men had come back from the war to find that the building industry had been disorganised by Government waste and themselves the first to suffer by being thrown out of work. Mr. Monson, replying to the toast of "The Architects," said that when a man passed out of his apprenticeship he should be graded and paid accordingly. If he got on well at his work, he should be graded still further. If the trade unions could only agree to grading in their particular trades, it would do much to benefit the men and the industry.

Small Holdings Village near Croydon.

The Surrey Garden Village Trust has obtained an option to purchase a farm of over five hundred acres three miles from Croydon, and intends to develop it under a combined housing and land settlement scheme to accommodate about two hundred families. The applicants, sixty of whom have already been accepted, are to be employed at the outset in helping to build their houses, make new roads, etc. The rents will be fixed so as to meet the interest and sinking fund requisite to redeem the capital cost in any given period of years, and at the end of the period the tenants become the absolute owners of the freehold. Advantage will be taken of the State subsidy and loan under the Housing and Town Planning Acts.

Incorporated Church Building Society.

At the last monthly meeting of the Incorporated Church Building Society £200 was voted towards building Christ Church, Pixmore, Willian, Herts., and the following grants were made towards church extensions or repairs: Ashmanhaugh, St. Swithin, Norwich, £25; Rampside, St. Michael, Barrow-in-Furness, £50; and Seaview, St. Peter, Isle of Wight, £50. The following grants were also paid for works completed: Leonard Stanley, St. Swithin, Glos., £100; Witchford, St. Andrew, Ely, £15; Brimscombe, Holy Trinity, Glos., £25; Barnsbury, St. Thomas, £50; Avon Dassett, St. John, Worc., £40; Thorn Falcon, The Holy Cross, Som., £30; Kensington, St. Augustine, £30; Weston Turville, St. Mary, Bucks., £30; and Furzedown, St. Andrew, Surrey, £50. In addition, £700 was paid towards small repairs to thirty other churches.

Wednesday, February 2, 1921 Volume LIII. No. 1361

THE ARCHITECTS' JOURNAL & Architectural Engineer

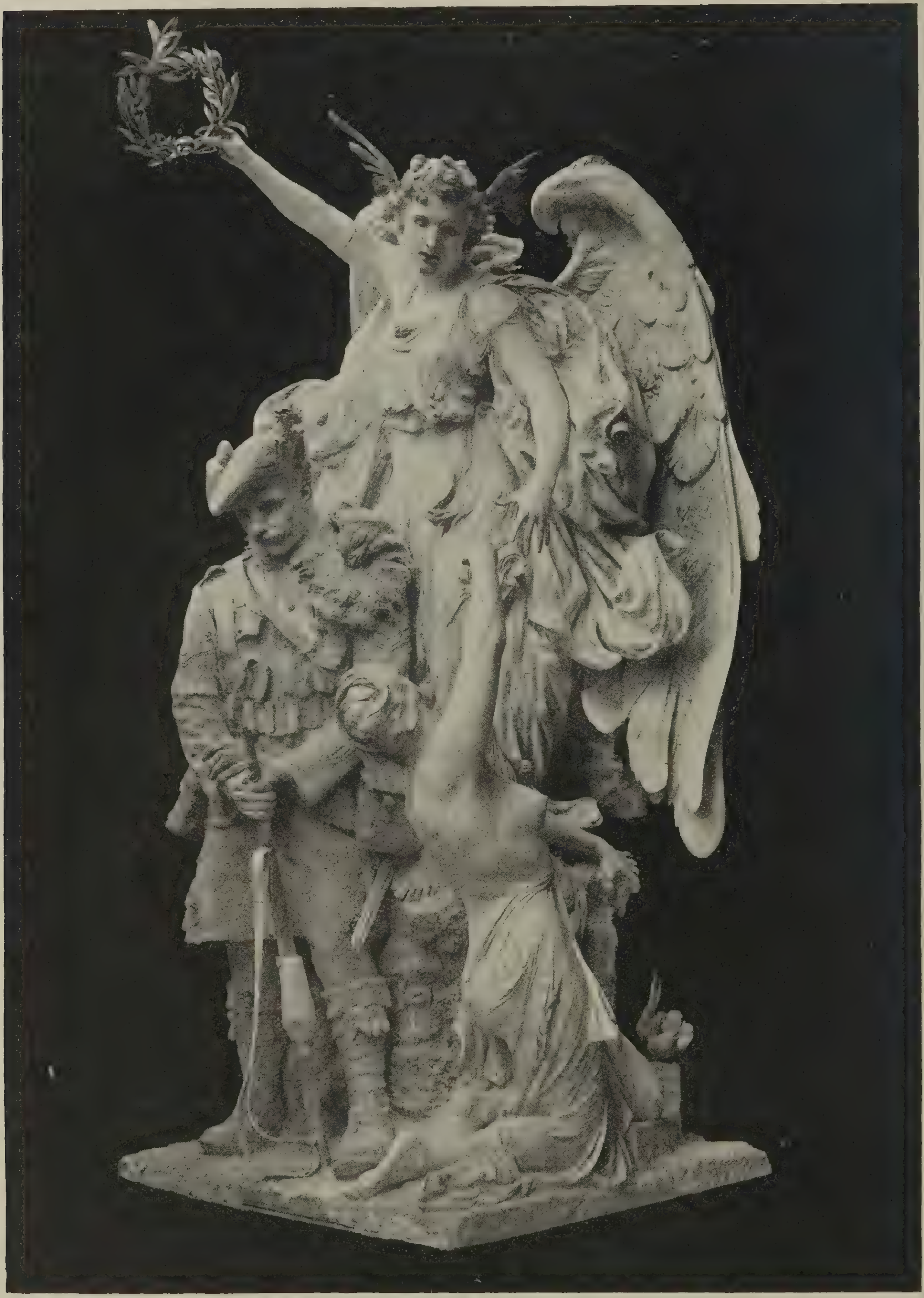
With which is incorporated "The Builders' Journal"

Hubert Le Sueur (1595 ? to 1650 ?) appears to have been born in Paris. According to tradition he was a pupil of Giovanni Bologna in Florence. After being employed by the king on various works in Paris, he came to England about 1628. He made and cast the bronze equestrian figure of Charles I., which, under the Commonwealth, was sold as old metal to be melted down. The monument was, however, secretly preserved, and, in 1674, was set up at Charing Cross on the pedestal designed by Grinling Gibbons. Le Sueur carried out a considerable amount of fine work, much of which has perished.

27-29 Tothill Street, Westminster, S.W.1.

Sculpture. 2.—Symbolical Group, Glenelg War Memorial

Louis N. Deuchars, Sculptor. Sir Robert Lorimer, A.R.A., F.R.I.B.A., Architect



This remarkably fine sculpture group, executed in bronze, has been erected as a war memorial on a prominent site overlooking the Sound of Sleat. Some particulars of the work, together with a small view of the complete memorial, are given on page 119. The statuary group is 10 feet high.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, February 2, 1921 Volume LIII. No. 1361

The Architect's Interest in the Industry

THIS week we print the final instalment of Mr. E. J. G. Alford's extremely interesting series of articles on "Human Nature in Industry." There is no need to explain the intention of the author. His objects are made plainly evident in the articles. Those articles are no perfunctory performance. Quite obviously they are the outcome of an intensive study of industrial conditions, and of a most sincere desire for amelioration.

Most writers on industrial subjects simply skim the surface, but Mr. Alford sounds the depths. He shows us what are the efficient causes of the chronic antagonism—active or passive—between employer and worker, and between the worker and his work.

It is to be inferred from Mr. Alford's articles, and is, indeed, deducible from personal observation and experience, that industrialism has become a stale convention. Morris, following Ruskin, long ago preached vehemently the sound doctrine that if work is to be good, the worker must take pleasure in it, and be able to take pride in it when it is done. Little joy, little skill and less art. This was what may be called the keynote of all that Morris said in his "Hopes and Fears for Art."

Mr. Alford, like Morris, insists on the place of the imagination in industry. Morris holds that "from simplicity of life would rise up the longing for beauty which cannot yet be dead in men's souls, and we know that nothing can satisfy that demand but Intelligent work rising gradually into Imaginative work; which will turn all 'operatives' into workmen, into artists, into men." Then follows an eloquent passage that states almost exactly the same central truth that Mr. Alford has expounded in his series of articles in our columns. "Now," said Morris, "I have been trying to show you how the hurry of modern Civilisation, accompanied by the tyrannous Organisation of labour which was a necessity to the full development of Competitive Commerce, has taken from the people at large, gentle and simple, the eyes to discern and the hands to fashion that popular art which was once the chief solace and joy of the world." Morris adds, towards the conclusion of his famous course of lectures, "And in all I have been saying, what I have been really urging on you is this—Reverence for the life of Man upon the Earth." Some home truths that Morris proclaimed in his romantic and mediæval way, Mr. Alford has restated less poetically but more practically in the series of articles concluded in the present issue. In his practical application of this doctrine, however, he insists that mere pride of professional skill or affection for form will not suffice. "There are certain psychological factors the neglect of which has cost and is costing commerce and industry incalculable time and money, and continued neglect of them may land us in industrial bankruptcy." He holds that a certain engineering magnate spoke no more than the plain truth the other day in declaring that not the acquirement or extortion of wealth, but the pleasure of achievement, was commonly the ruling passion of the "captains of industry." If this claim be granted, there must follow, if we are just, the further admission that wage-earning is not the sole aim of the majority of workers; in most of whom, however, the embers of the old-time pleasure in co-operating towards a common end have almost ceased to glow.

It is, as Mr. Alford has eloquently shown, the team-spirit, the "Spirit of Association," as a genial author has termed it in the title to a remarkable book, that must be invoked to stay the lamentable plague, pestilence, and famine that are devastating all industry. Health and sanity will only be restored as men acquire more faith in each other. Mr. Alford's masterly analysis of the psychology of industrial relationships has healing in its wings. Although his appeal is not primarily to architects, but to employers of workpeople, the author makes it very clear that in the great movement towards industrial amelioration the architect is expected and is earnestly invited to take an active and important share.

Hitherto, the average British architect has not done his duty towards the industry. His aloofness from the contractor and the operatives is notorious, and behind his back he is roundly abused for it; and let it be here confessed that some of the harsh things that have been said about his alleged "stiff-necked pride and egregious snobbery" we have occasionally inserted in this Journal, partly with the object of contradicting them flatly, and partly in the hope that seeing himself as others see him might sting him into action.

What action? Well, it is not for us to draw up a programme explaining to the architect his duty towards his neighbour. He knows it full well, and therefore it only remains for him to perform it more diligently. It is largely for lack of his powerful aid that in the building industry the team spirit languishes. What is his attitude when employers and operatives are at loggerheads? He gets highly indignant at the interruption of the work, and his sole contribution to the arguments at issue is, "A plague take both your houses!" That attitude, while strictly neutral and impartial, is not very helpful; and, to tell the bitter truth, it wears the appearance of being rather callous and selfish. What interest does he take in the operatives? Ask them, and they will tell you, "Well, he sometimes finds fault with our work."

Now, the French architect takes an intense interest in the contractor and his work-people. He is the father of the family, the shepherd of the flock. Nothing ever happens to them, individually or collectively, without his being told all about it. They consult him about their private affairs as freely as on points of workmanship, and he is always ready to give advice gratis on all points that arise. He is the court of appeal on apprenticeship, technical education, wages questions; on him, indeed, seems to have fallen the mantle of the director of the mediæval building guild, who was, indeed, the architecton, the chief builder, to whom all the rest looked up for guidance in all their affairs, whether of craftsmanship or of more intimately personal matters.

Differences of racial temperament and national tradition may make impossible here the patriarchal relationship possible in France. Nevertheless, the British architect could, if he would, render to the industry many valuable services which, save in some few and all too rare instances, he is at present utterly neglecting. Work of social amelioration lies ready to his hand. There is at least one eminent firm of builders that, doing excellent ameliorative work for its operatives, receives very little help in it from architects, who often praise the efficiency of this firm's staff, but seem unaware of how it is attained. Yet it should be part of an architect's business to become intimately acquainted with the methods and the polity that secure results which must often make him marvel how it is that one contracting firm is so much better than another. The simple answer to this question is that the firm that secures the best work-people is the firm that treats them best—recognises their humanity by acting towards them in the spirit of association, the team-spirit which Mr. Alford has so admirably described. Architects would enlarge their knowledge and expand their souls if they would take part more freely in this work. For one thing—there is this week no space to mention others—they could give the workers lantern lectures that should inspire them with some few sparks of the architect's own enthusiasm for noble buildings.

Notes and Comments

Building Employers Stand Firm

At the annual general meeting (reported on pages 133 and 134) of the National Federation of Building Trades Employers, the retiring President, Mr. Stephen Easten, explained once again his attitude towards national housing and the Ministry of Health. Naturally the Federation expressed full approval of Mr. Easten's reasons for resigning his appointment in the Housing Department, and it passed a resolution recording its "deep sense" of obligation to Mr. Easten for the course he had pursued. He has, indeed rendered building contractors a signal service by his very thorough exposure of the Government's unfairness in encouraging the building guilds to the detriment of building trades employers; and he has proved to demonstration that the concessions to the guilds are as unsound as they are inequitable. Other noteworthy resolutions carried at the annual meeting were one challenging the utility of the Industrial Council, and another recommending the Government to consider the desirability of repealing all prohibition of building work. As to the former resolution, we trust that the Industrial Council will survive the menace; for it is an institution that, rightly constituted and conducted in good faith, should be a strongly ameliorative influence. Now that architects are admitted to its counsels, there is much less likelihood of its being captured for propagandist ends by any "advanced" group of members, and a much better chance of its doing straightforward and much-needed work for the reconciliation of differences which hitherto it has merely accentuated. It is rather a pity that, in the present somewhat critical state of affairs, Mr. Easten was not re-elected, the better to ensure continuation of policy. Such a course, however, is seldom or never adopted by the Federation, and in Mr. A. J. Forsdike, a shrewd Yorkshireman, who for many years past has been a signally devoted and an incomparably zealous adherent of the Federation, Mr. Easten has a successor who may be trusted to "carry on" with uncompromising vigour and sturdy determination.

Is It Worth While?

Enjoyment of Mr. Paul Waterhouse's lecture delivered at Victoria University, and printed on page 123, will be slightly marred for many of its readers by the sinister question that forms its title—"Is Architecture Worth While?" It is a saddening reflection that it was certainly worth while to ask and to answer such a question. Eloquent and powerful as the lecture is, however, it seems to us to give the enemy, the *advocatus diaboli*, too much latitude for his answer in the negative. The fact being that "spiritual things are spiritually discerned," we fear that the affirmative proposition simply cannot be conveyed materialistically enough to carry conviction to the unconverted. To those who have ears to hear, Mr. Waterhouse's lecture is as convincing as it is delightful; but there are others. The original of "Mr. Foker" qualified his praise of Thackeray's lecture with "Wants a piano, though." For the likes of Mr. Foker (an innumerable tribe, but including no architects), lantern slides of noble buildings, with Mr. Waterhouse pointing out the architecture and the non-architecture in them, would be more effectual than the most brilliant gems of abstract thought. But Mr. Waterhouse's exceedingly fine lecture was not addressed to Philistines; nor, we fear, would it convert them in hordes. It was one of a series of lectures organised by the Manchester Society of Architects and the Institute of Builders, who are to be heartily congratulated on their public spirit in arranging the course.

Civic Pride

Mr. St. John Ervine, lecturing to the Irish Society on "Some Impressions of America," whence he has recently returned from a visit, declared that "what we call American brag is the outcome of a quite laudable desire to see things better done in his [the American's] country than they are done elsewhere. Civic pride is far stronger in American cities than it is in British cities." That is certainly not news to British architects. It merely confirms the impressions and reports of the ever-increasing number of members of the Profession who visit the United States to return with eulogistic accounts of the marvels they have beheld in town-planning, building, and decoration. We needed, therefore, no assurance of the American's pre-eminence in civic pride. Examples of the superior enlightenment of the Americans in such matters should be brought home to the British public by means of lantern-lectures, in which the fine parks and magnificent buildings in the States should be duly represented. Such ocular demonstration would surely shame our sordid citizens into a higher regard for civic dignity.

A Practical Resource

It will be useful to draw attention to a rather striking instance of the utility of our enquiry columns. A question arose as to the treatment of a certain site for a club building. The corporation officials thought that they saw reasonable grounds of objection to certain points in the architect's plans, and the architect thereupon sought the advice of the experts who make the enquiry columns so valuable to those members of the Profession who meet with difficulties in their practice. This particular problem was so clearly elucidated by one of our contributors that the querist was good enough to report the sequel in the following terms: "Please accept my best thanks for your letter in answer to my query. On placing your letter before the Corporation officials, they have (on the advice of their solicitor) approved the plans." Subsequently we received a similar acknowledgment from the architect's clients. Communications of like import continually reach us, and we mention these facts as an encouragement to readers to make the fullest possible use of a facility that is freely offered.

Architectural Causerie: An American Critic

A CONVERSATION last week with an American architect whose experience I value and esteem began with a discussion of building from the architect's point of view, and ended with divergent ideas respecting the ultimate effect of buildings, furnishings, and decorations upon the minds of the public. As the points then touched upon summarise questions of moment, the printer has been asked to set them up in the order to be found hereunder —that is, in dialogue form.

* * *

The American Architect: English architects are idealists in so far as striving for the best inspires them. Moreover, they are mediæval in their passion for craftsmanship. Their genius for construction is a faithful reflection of the national character, while, judging from close observation, one may hazard the opinion that their powers of organisation are rather curiously limited; for it is rare to find an English architect able or willing to forgo personal supervision of the smallest details of the works entrusted to him, or of the running of his office. These traits, with others too numerous to mention, prove the Englishman's eagerness to undertake small things, and to leave great things to take care of themselves. It is the principle upon which the British Empire has developed, but it does not follow that architecture will be equally successful if left to individuals and chance.

Aero: Pray continue; your remarks coincide with certain opinions I have long entertained.

American Architect: When I land from the Cunarder at Liverpool my first impression is invariably to the effect that England is a great country, and the English are great artists. You English have had nearly four centuries of intercourse with the Continent of Europe in which to accept the curse of the Mediterranean; in consequence, your country appeals to Americans as a finished article. Speaking personally, I may say that the older parts of your cities, towns, and villages speak to my tastes. For your newer works of civic pretensions, apart from the corduroy roughness of some of our back towns, I must be excused the opinion that they fail to compare at all favourably with similar works in my country. As the white and bottle-green coaches carry me swiftly through the garden of the English landscape, I am forced to envy life in happy England. Arrived at Euston, I experience the rich smell of London which pervades the central hall of that exceedingly fine but absurdly small railroad terminal, and, leaving my baggage at the hotel, always march to Bedford Square to re-enjoy what I consider to be one of the finest examples of aristocratic architecture in the metropolis.

Aero: But what of the newer streets? Don't you admire the buildings of Kingsway? Haven't you seen Tottenham Court Road, Oxford Street, Regent Street, the latest war memorials, and the rest?

American Architect: I have just passed through those famed avenues; but the buildings now bursting through the fir poles in anticipation of spring left me without enthusiasm. More than ever am I determined to study the peculiar tone and quality of old London, even the London of good Queen Victoria, rather than the flashy imitations of Paris that seem to be the mode just now.

Aero: This is very interesting. Would you mind being a little more explicit? Perhaps you will be kind enough to analyse the cause of the decay of national taste.

American Architect: That I will do right now. England has developed from a small country into a great one in the short space of a century—she has trebled her population and increased her responsibilities a thousandfold, but at heart she has remained Mediæval in all pertaining to building and civics. The same instincts that prompted dancing round the Maypole in the Strand have rendered the placing of the Cenotaph in its absurd position at Whitehall. You English cling to your narrow streets as the old Romans adhered to the Forum of Rome. It may be interesting to see a quarter of a million of Londoners endeavouring to pass along Whitehall on given days, but days of national veneration should be arranged for open spaces. In America we should have chosen a park for such a memorial as the national Cenotaph. Because you English are way back in the days of Cardinal Wolsey, you allow every London citizen with a bit of money to splash, to do his worst, or to get his architect to do his best, which is much the same thing.

Aero: But surely——

American Architect: But me no buts. You English architects lack confidence; you are devoid of that sense of fellowship which should exist among all members of a guild. The extraordinary thing is you profess Mediævalism, and then do your best to decry the guild system. Even your Royal Institute of British Architects is a house divided against the best interests of the architectural profession.

Aero: Hush, hush, hush!

American Architect: What's the trouble? Let me continue, pray. As I was about to observe, English architects have a way of knocking out the plans for a good-sized country mansion or a small 90,000-dollar house. They can on occasion contrive a sham seventeenth-century village such as Hampstead or Letchworth, which only needs the figures of Justice Shallow, Dr. Caius, and a few picturesquely clad yokels to carry the mind away back to England's spacious days. When I go around their quasi-rustic scenes, the absence of stocks, pillory, and whipping-post irritates me absurdly. Your construction has America beaten to a frazzle. It is as solid as the Pyramids; even your little rough shacks have as much brickwork in their make as many an ancient sakkara of the upper reaches of Old Nilus.

Aero: Please explain your views of civic architecture.

American Architect: I am coming to that. After looking at St. Paul's Cathedral, the front of Somerset House, the Bank of England, the National Gallery, and a few other of your show-places, I long since formed the opinion that the periwigged, tie-wigged, stocked, side-whiskered, and stiff-necked romanticists who each and several, collectively and individually, at divers times contributed to the making of old London, had some notion of manners and deportment. Moreover, they knew their fellow-men, and had a complete notion of contemporary life. Your Sir Christopher, for example, was a very compleat architect. Judging from observations recently made, it is apparent to me that you English have, for the past twenty years, been dabbling in all kinds of garbage from the Renaissance dust-bin, without profiting by our experience on the other side. Forty-five years ago the ghost of Queen Anne was raised at the call of the medium. This pale spirit tinctured the walks of Kensington, Bedford Park, Hampstead, Richmond, with her remembrances. After this came an Elizabethan and Jacobean Revival, which lasted until the Diamond Jubilee of Victoria's reign. Then ensued the rebirth of English Palladianism. Appeals were made to the shades of Inigo Jones, Wren, Kent, Taylor, Chambers, and a host of others. The net result was a plethora of badly designed town-halls, libraries, baths, clubs, hotels, theatres, and mansion flats, all which appear to-day extremely unsuitable for London. Your latest craze seems to be for a sort of nondescript classic that consists in the main of columns with strange entablatures recalling the rock-cut work of Phrygia, of leafy ornamentation reminiscent of the paper-hangings seen at Christmastide in the fifth-rate houses of London, ironwork following no known historical motif; and many other strange conceits. The majority of English city buildings reveal the despair of their authors to achieve anything. There are, of course, a few showing acquaintance with some recent American work, others recalling some of the latest stone creations from the Avenue Kléber in Paris, and others; but I will spare you.

Aero: Surely you will admit that English architects have at least attempted to unravel the tangled skein of architectural history, that some attempt has been made to meet the modern conditions to be original and to please the public.

American Architect: I will admit nothing save this: You English delight in making things complex. You will not see the value of simplicity. Your average practitioner shuts himself up in his office, sketches his plans within the compass of his sheet of Imperial or Elephant paper, and, while the design of the building engages his attention, loses sight of the true vision of contemporary life. The result is that another stone packing-case is added to the number already littering the streets. Your English architect has little standing in the City of London. He rarely consorts with the *habitués* of your City clubs. He is, in spite of his education, looked upon as a dreamer, whose job it is to supervise the builder. What can you expect other than this, if the client mistrusts his architect and does not care in the least how London will develop in the future? The public tolerates the dazzling whiteness of Portland stone without inquiring into effects of proportion or taste in ornament. The architect tries to please, and puts into his work just as much as he knows; he is trammelled by absurd and obsolete building regulations; he is at the mercy of clients who desire buildings to stand on sheets of plate-glass; he is bewildered by competition and the craze for originality; so he does his best and determines to be architectural.

Aero: Oh, come, now! Things can't be so bad as you make out, otherwise civic art in this country would be at its lowest.

American Architect: It is. AERO.

Human Nature in Industry: A Psychological View

4.—The Employer as Educator—*(concluded)*

By E. J. G. ALFORD, M.A. (Cantab.)

In concluding this series of illuminating articles, the author declares that the most neglected factor in efficiency is the love of good work for its own sake, and he suggests certain ways and means of stimulating interest in it. In particular, he urges architects to take a more active share in widening the horizon of the worker.

A MAN may lay a brick well because he receives so much an hour for doing so, or because "I like to see a brick well laid," or, more naturally, both. The wider the range of attractive experience and idea that can be associated with his action, the better and more efficiently his brick will be laid. This, of course, is by no means the only factor in efficiency, as I have said elsewhere. I urge it here not because it is the most important, but because it is the most neglected and because its value can only be measured in the comparatively long run.

It is a commonplace that different trades produce different types of men. And it will be found in general that the best type of man has been trained in an occupation with which the greatest range of imaginative idea is easily associated. The carpenter or cabinet-maker need not consciously be concerned with forests and the growth and life of trees; with weather and the open-air life; with the thousand-and-one uses to which wood is put beyond his own immediate purposes. But few men could habitually use their hands on wood without these far-reaching associations entering at least into their unconscious make-up, and so investing their labour with a significance no purely economic interest can attain.

This is education in the truest sense; not the provision and accumulation of disconnected facts, such as our schools, colleges, and text-books provide us with, but the keeping alive of the innate instincts of curiosity and creation, and their association with the trades and occupations of everyday life. Mr. Fisher's provisions for continuation schools contained safeguards against the adoption of educational facilities by employers merely to increase industrial efficiency to serve their own ends. So far so good. But it would be a thousand pities if opportunity were not taken to link imagination and culture to each industry through the schools, so that trade or industry itself could be made the means to the synthesis of the instinctive activities of mind.

No finer opportunities exist than in the building trades, and no one is in so favourable a position to make use of them as the architect. The social significance of labour lies perhaps outside his scope, but education in this in any case must come by experience, as I have more than once insisted. He need wear no philanthropic nor propagandist uniform, for he can rest assured that any interest he arouses in the work done to his plans will be repaid in the quality of the work produced.

There is the question of materials. Why is such or such a quality employed on this job? Where does it come from—what geologically or mineralogically consist of? How does this consistency affect its use? These are questions of survey and of engineering; of the processes of manufacture; of art and design; of the suitability of plan to purpose; of all the wide field of knowledge and experience which goes to his own training—all this to give an added meaning to the work of the men who embody his conception by their labour. Better than the formal talk or lecture, better than criticism, would be to move among the men at their work, keeping a live mind for the opportunity of a suggestive comment or piece of information here and another there. *Has* the architect a live mind? Given the chance, interest and enthusiasm must be infectious if combined with a modicum of sympathy and tact.

Can the average architect not afford to invest an hour or so a week in this manner, for the quality of the work through the good will and pride of profession of the operatives? When the contract was completed, or approaching completion, would be the time for a lecture on the building as a whole, unless, which is unlikely, the initial relations between workers and architect were such that a lecture on the proposed building would not be received without suspicion of patronage or ulterior motive.

To how many architects does it occur to thank the builder's staff on the completion of a job? Even if he consider that he has no reason to be grateful, a not too demonstrative "Thank you" may give him grounds for more genuine gratitude on the next occasion. And let him pay his dues in person, not merely in a letter to the director of the firm, which may or may not reach the workers at second-hand.

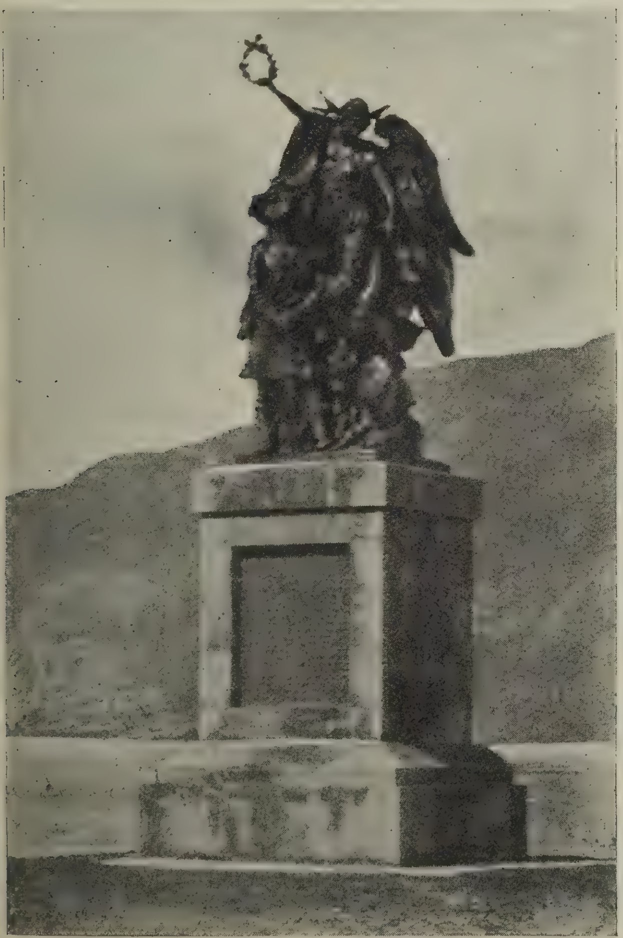
Such hints embody no more than the common sense of manners and humanity. But common sense and commonplace are by no means identical, and this is the kind of common sense of whose importance the social psychologist is continually more deeply assured.

Conclusion

It will hardly have escaped notice that in the course of these articles very little mention has been made of certain aspects of industrialism, which obviously have a large place in determining the quality of the social or group mind. The question of the control of wages, and, indeed, the whole of the economic issues of the present or of alternative systems, have been left untouched. Again, nothing but passing reference has been made to security of employment and its corollary, unemployment insurance. The omissions have not been accidental. For although no complete analysis of the psychological condition of industry could be conducted without them, they are in themselves not psychological, but economic problems (with which, as such, I make no claim to deal) affecting social psychology. All that can be said of them here is that just in the degree that industrial life is based not on the creative and social instincts, but on desire for profit on the one hand, and on fear of unemployment or of destitution on the other, questions and conflicts of purely economic import will be critical and obsessive. That supplies another excellent reason for their omission here. So much do the economic motives monopolise attention that the existence of other instincts than those of the stomach or the lair are forgotten or positively denied. It is assumed that the only motive for labour is livelihood, and the assumption is a false one.

Superficial observation of existing conditions induces a certain view of human nature, and it is claimed that "human nature cannot be changed." That is either a tautology or it is not true. If by human nature is meant its complete potentialities, latent and developed, the statement is not worth making. If is meant the average manifestation of existing personalities, then the whole of modern psychological and educational research bears witness to the contrary. Human nature or character is the result of the reaction between innate tendencies and the environment in which they develop—tendencies which in the environment they are commonly afforded remain primitive and infantile on the emotional side to much the same extent as they remain on the intellectual. The recent census of intellectual ability in the American Army showed the average development of the American citizen to be (I am writing from memory) that of a seven-years-old child. The average development of character (for character even more than intelligence changes spontaneously in quality from infancy to maturity) is certainly no further advanced. It is arrested and fixed by acquired mental habit, and habit even in maturity may be modified and controlled by change of environment. That is all that the various suggestions and recommendations I have put forward amount to.

What is needed more than any change of economic system—what is needed, I believe, before any fundamental change of economic system will be possible—is a change of outlook, of spirit. That is a matter of education or of re-education. And education is a matter not of instruction, but of experience. This experience, in so far as their own works are concerned, it is up to the controlling powers of industry to supply.



GLENELG WAR MEMORIAL.
SIR ROBERT LORIMER, A.R.A. F.R.I.B.A., ARCHITECT.
LOUIS N. DEUCHARS, SCULPTOR.

The Glenelg Memorial

This memorial, of which a view of the statuary group is reproduced on the frontispiece of this issue, occupies a fine and prominent site overlooking the Sound of Sleat, with the dark, rugged mountains of Skye wreathed in ever-moving mists forming a wild and picturesque background of exceptional grandeur, impressively in harmony with the historical warlike traditions of the Cameron country, which has always been first to offer its sword and service to King and country. The bronze group is placed on a stone pedestal, simple and dignified in design, and in harmony with its rugged environment; the whole *ensemble* forming a conspicuous landmark, rising some 18 ft. above the road level and an object of interest to the numerous tourist steamers passing through the narrow sound separating Glenelg from the Isle of Skye. The bronze group is one of the largest ever erected in the Western Highlands, and consists of three colossal figures symbolical of the great war—a typical Cameron Highlander stands on guard in a dignified pose in full fighting kit with both hands resting on the barrel of his rifle, at ease, while a kneeling female figure mutely appeals to the winged figure of Peace bearing aloft with right arm extended a bronze wreath. The total height of the bronze group is 10 ft. It was modelled by Mr. Louis N. Deuchars, and is an impressive composition. The inscription panel in bronze is placed on the face of the pedestal fronting the road, and consists of inscription and names in bold lettering in relief.

The memorial has been carried out from the designs of Sir Robert Lorimer, A.R.A., F.R.I.B.A., architect. The pedestal has been erected by Messrs. Maclean and Son, builders, of Inverness, and the colossal group of figures, as already stated, has been modelled by Mr. L. N. Deuchars and cast in bronze by the Albion Art Foundry, Ltd., of Parsons Green, London, under the personal supervision of Mr. J. F. Carruthers Bell, who also directed the erection and fitting together of the group at Glenelg.

Llandudno War Memorial Competition

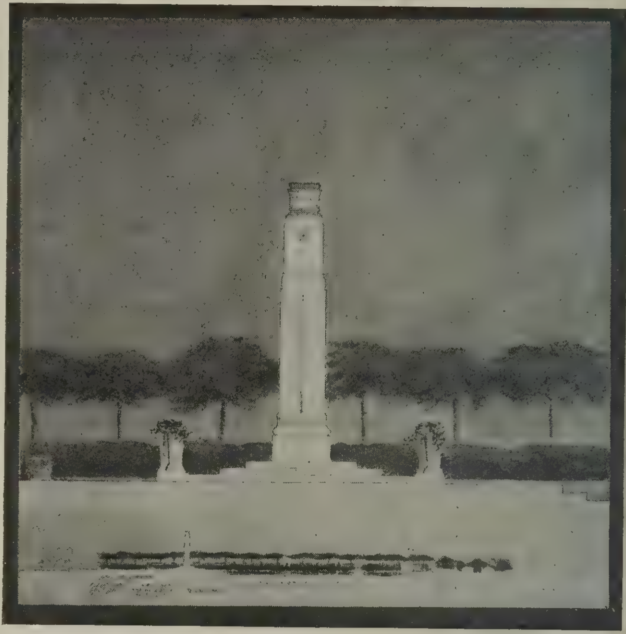
THE assessor in the above competition (Mr. A. G. Humphreys, F.R.I.B.A.) has made the following awards:—

First, S. Colwyn Foulkes, A.R.I.B.A., Colwyn Bay.

Second, H. Scott Davies, Birmingham.

Third, F. E. Littler, A.R.I.B.A., Nottingham.

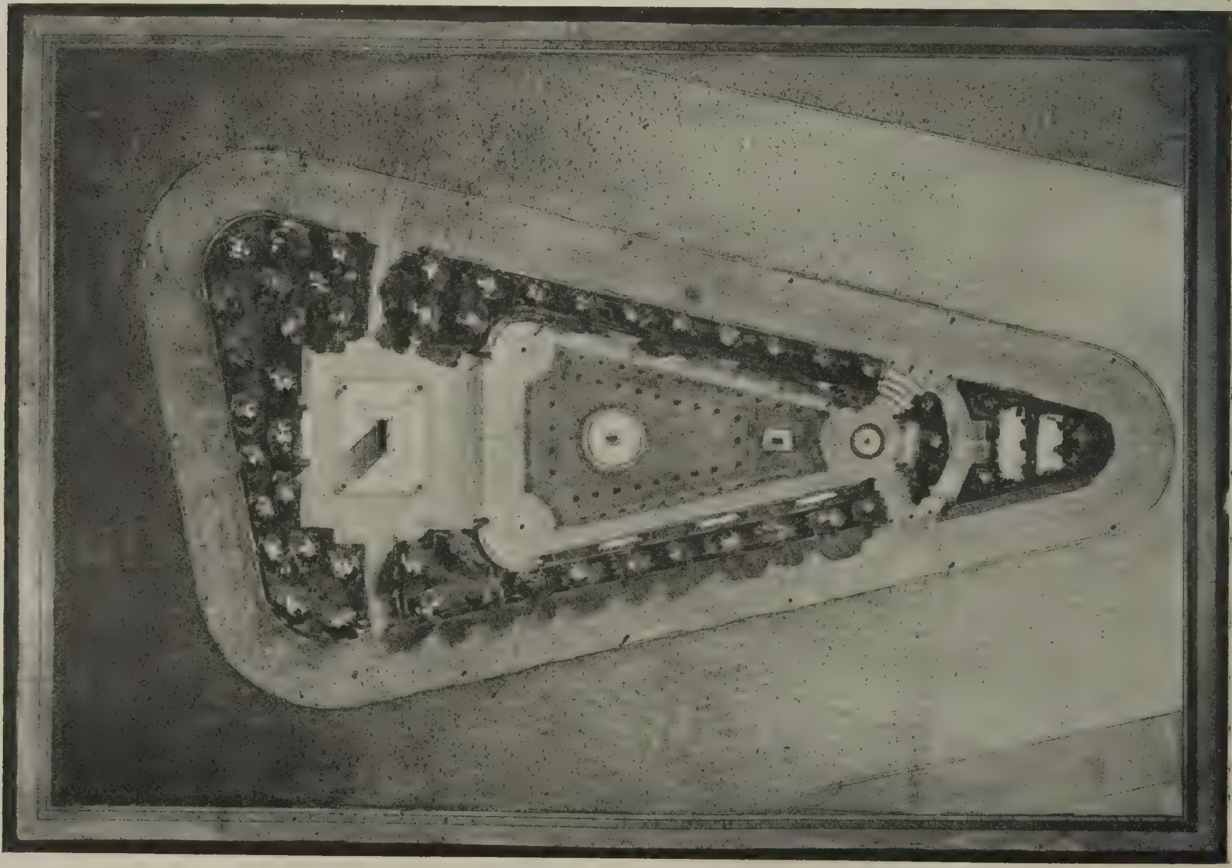
The conditions called for a cenotaph to be placed on an excellent site terminating the principal street of the town. The assessor in his report records that: "Fifty-seven designs have been submitted. The author of the winning design has grasped the possibilities of the site, his layout is skilful, and his design generally is quite the most satisfactory."



Since Sir Edwin L. Lutyens designed his famous monument in Whitehall, the cenotaph has become a generally accepted form of war memorial. In some cases it has been handled with insight and imagination, but in many instances it has suffered considerably in the process of interpretation by less skilful hands. This criticism, however, cannot be held to apply to Mr. Foulkes, who, in adopting the cenotaph model, has given it a new character and a new interest. A very attractive feature of the design is the setting—hedge and trees enclosing the monument, and giving it that necessary character of privacy the lack of which is the chief drawback of the Whitehall monument, which, of course, ought never to have been set down in the middle of a busy thoroughfare. The best position for a war memorial is undoubtedly in the middle of an open space, preferably a public park, with ample accommodation on the actual monument for wreaths and flowers, and plenty of room for the movement of visitors. Where, however, such a site is not available, and it becomes necessary, as in the case of the present competition, presumably, to erect the memorial in a public street, it is essential that something should be done to secure a measure of privacy and seclusion. Mr. Foulkes has hit upon an excellent treatment for such a situation; and, besides its actual service to the monument, the surrounding greenery will add a pleasant touch of colour to the street itself.

Architecturally, Mr. Foulkes's design is excellent; the use of the side walls of the centotaph for the names of the fallen is to be commended.

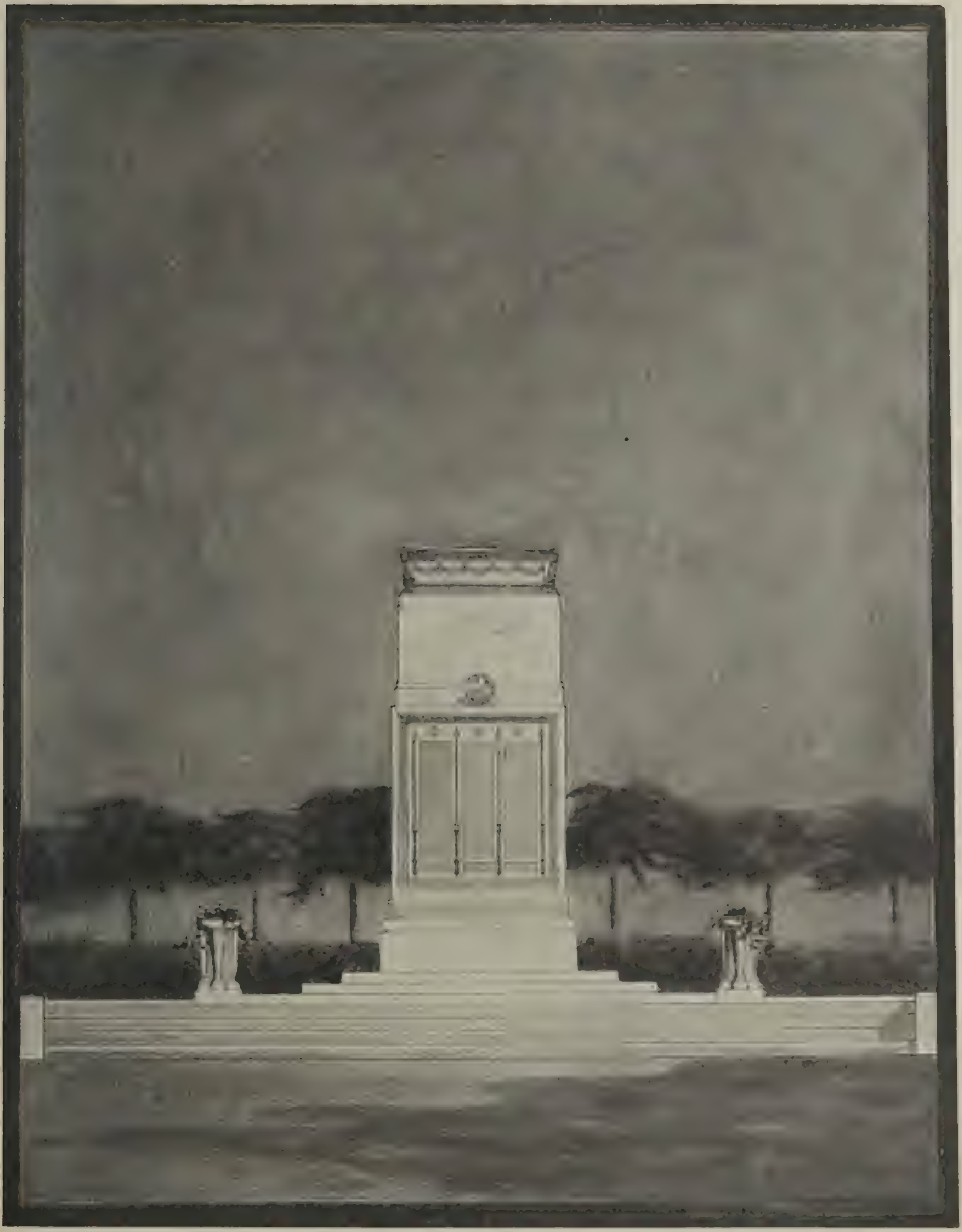
Mr. Foulkes was trained at the Atelier of Architecture of the University of Liverpool, and at the School of Civic Design and Town Planning University of London.



LLANDUDNO WAR MEMORIAL COMPETITION: WINNING DESIGN. S. COLWYN FOULKES, A.R.I.B.A., ARCHITECT.

Current Architecture. 56.—Llandudno War Memorial Competition: Winning Design

S. Colwyn Foulkes, A.R.I.B.A., Architect



In this competition, the full awards of which are announced opposite, the winner has adopted the cenotaph form of memorial, and has produced a design which fulfils the necessary requirements with complete success. Mr. Foulkes was rained at the Atelier of Architecture of the University of Liverpool, and at the School of Civic Design and Town Planning, University of London.

Is Architecture Worth While?[*]

By PAUL WATERHOUSE, M.A., F.R.I.B.A.

I SUPPOSE that there is some sad truth in the suggestion that we are beginning a little to forget the new England we were going to establish as an outcome of the return of peace. I hope this grain of truth is only a grain. At least we can look up some of our two-year-old resolutions and ask ourselves whether some or any of them are not still worthy of our attention.

One of these—one at least that I find in my own limbo of hopes deferred—was a steadfast proposal that before the house of European humanity was reinstated after spring cleaning every article of its intellectual furniture should be thoroughly aired in the sunlight of exposure and never put back in its accustomed, or even in a new, position until its owners had deliberately made up their minds whether, after all, the dustbin or the destructor might not be its proper destination.

Guided by this rule, people with a sense of duty upon them would ask themselves before restarting life in the land of Nova Europa—or for that matter in America (for the moment I need not worry about Africa or Asia)—whether not only their hobbies, their pastimes, and some of their customs and habits were worth preserving, but even a more solemn and searching question still.

One's Task in Life

I think a man may properly and profitably enquire, Is the task to which I give my life a task which is worth the doing? This is not merely a question relating to personal fitness for the task in question. No doubt a truly modest professional or productive man in any department of artistic or professional life will admit that he is doubtful of his *own* powers as an adequate performer. But this is not the point; nor is the question, so put, of value except as a test of self-depreciation. The real and vital question to which I am coming is of a less embarrassing, though more searching, nature. The questioner, let us suppose him a stockbroker or a professional golfer, is to ask himself and his friends, not "Am I personally doing any good in the world by continuing to broke stocks or to hole putts?" but "Is this career of stock-marketing, is this eager progress after the bounding ball a process which makes in the long run for the better completion of humanity's real object in life?"

Fortunately, we need not here discuss the permanent merits as world possessions of either of the two arts or trades here taken at random. For it occurs to me that most golfers would vote for the continuance of the Stock Exchange and all stockbrokers for the eternal prosperity of golf.

I do not wish to continue this preamble except in so far as to remind you of the brilliant theory of what I may call the concatenation of trades which Aristotle puts forth at the beginning of the ethics. How he simplifies our view of the unity of human occupations by the suggestion that almost every trade or pursuit is, apart from its merely money-getting aspect, contributory to the general purpose of human pursuit in that besides having its own end or purpose of achievement that very end when achieved is the groundwork of some other interest or art or craft. For example, to begin at the upper end of one of the scales of activity, there is the man who studies philosophy. He could not do this without the written works of the man who writes philosophy; he in turn depends for ease in writing on the carpenter who makes tables; and thence we descend to the craft of the woodman, and beneath him possibly to sower of an acorn.

My question to-night is simply this: Has architecture, or has it not, a right to a serious place as a link in the chain of civilisation?

There is one very elementary answer to this question which puts architecture into its place as one of the necessities of life. Whether it takes a sufficiently comprehensive view of the nature of architecture remains to be seen.

What is an Architect?

During the war certain trench works were considered desirable on the outskirts of London, and the work of making those trenches was entrusted to the various battalions of London volunteers under the direction of officers of the regular Army who, for reasons of ill-health, age, or disablement in war, were not permitted to do service overseas. One of these military overseers came one day upon a volunteer sergeant who was busy with the making of a plan. "What is that?" said the officer. "A plan of the trench, sir," said the sergeant. "What is the good of that?" asked his superior, with military embellishments. "Why don't you set your men to work with their spades instead of messing about with drawings?" "I do this," said the amateur sergeant, "because professionally I am an architect." There followed a conversation about the silly nonsense of letting professional cranks play at soldiering and about the desirability of going straight to work without any preliminary fads, winding up with, "What has architecture to do with it, and what is an architect?" The answer came, "An architect, sir, is a man who is engaged at very moderate cost to make small mistakes with a twopenny pencil on a threepenny piece of paper and to rub them out with a penny lump of rubber, solely in order to prevent his clients from making costly errors on valuable land with expensive materials."

Here we get at least one man's definition of what an architect is. A preordainer of the use of materials. The man who sits down and thinks before others get up and act. A precautionary kind of person. One who, as the sergeant put it, makes little mistakes on paper to avoid big mistakes in actual execution. And I think that as far as this light on the subject goes we may say that the work of the architect is worth while; meaning by worth while, worth money. But, someone will say, this pre-ordaining man is not an architect in any full sense of the term; he is only a sort of surveyor, or at best an architect in only a very preliminary and clerkly sort of way. Any decent builder, if you were to entrust a building to him without appointing an architect at all, would find among his office staff someone who would do all that was needful in the way of enough draughtsmanship and headwork to prevent and obviate the sort of waste and misdirection that would occur if one started straight off by removing the turf without having a scale plan to work on. For the moment, and for the sake of argument, I am going to presume that the objector is right and that the mere preliminary arrangement of the use of materials to a particular end is not architecture.

I say "for the moment and for the sake of argument" because I make the concession with an uneasy conscience, and shall probably bring myself and you to believe shortly that the simple pre-ordaining of the disposition of material comes very near to the whole duty of architecture.

But, granting the objection and taking the objector's point of view, we should probably pursue the line of thought that architecture consists of a certain knowledge of style and certain tricks of embellishment super-added to mere skill in arrangement. And we should then ask in a searching manner whether it was not true that architecture in the high art sense of the word was a kind of luxury on the part of rich men and rich corporations, which as a luxury ought to stand on its trial. The line between luxuries and necessities is a hard line to draw, because some luxuries are necessities and some necessities, if you want them badly enough, become the most luxurious of luxuries.

But it is a very fair question to as whether, inasmuch as architecture of even the highest class is inseparably bound up with building, the crossing of the line between constructionally sound building and what we admit to be good architecture is not, after all, equivalent to striding out of the kingdom of practical life into that of extravagance and fancy.

We live in an age which is very hard up. Making both ends meet is to-day one of the fiercest problems of European humanity. Are we justified in such an epoch of strenuous effort in allowing the two ends to overlap? Should we not tie these two ends in the smallest possible of reef knots, leaving aside all thoughts of elaborate bows, or of anything but the most meagre connection?

Architectural Education

On all sides we see architectural education advancing stride after stride. Boys who might have a brief practical training in a builder's office sufficient to enable them to draw a simple plan and elevation, are spending their time, their parents' money, and the funds of endowments in learning ancient history, modern theory, skilled draughtsmanship, and the laws of proportion. Is it right? Or is it frankly wasteful? Art we know exists, and probably will continue to exist. The value of art to life may be open to debate; but the arts other than architecture at least produce commodities which the purchasers or other consumers can take or leave at their option. No one is forced to buy concert or theatre tickets; a man can go through life without even paying occasional shillings at picture galleries; and as for poetry, though it is difficult to be sure of avoiding it in daily papers, it is, on the whole, a production upon which no citizen need feed at his own expense unless he wishes to do so.

---

[*] A lecture delivered at Manchester Victoria University.

But with architecture you may say the case is different. Everybody has something to do with buildings, public and private, and as a rule he contributes, directly or indirectly, to the cost of the public and private buildings which give him shelter. Is it fair, you ask, is it just that the people should be compelled to pay for architecture as well as building craft, and are not the men who spend their lives in studying and producing architecture wasting their own time and other people's money?

A rich man, so long as we permit the existence of rich men, must, it is true, be allowed to spend his money in all ways that are harmless. We shall allow him to buy pictures, even statues, though that is sometimes looked on as a form of madness, and perhaps it would be hard on the rich man who has a taste for architecture to deny him the luxury of employing architects; but, it may be asked, should not the indulgence in architecture be confined to those who, out of whim or out of opulence, see fit to pay for the superposition upon their buildings of that art which lies outside the necessities of warmth, shelter, and sanitation?

On all this I reserve my answer for the moment, but I can quite understand the logic of the suggestion that, the problem of the cottage and the small house being what it is, a standardised collection of lithographed designs would produce as good a result, if worked upon, as would the individual efforts of different architects.

I say "I understand the logic of the position," but I don't say more. I have put myself for purposes of honest enquiry into the depths of pessimism, and my mood is enhanced at the very moment of writing the words by the house in which I write them.

Vernacular Architecture

I am sitting in the sunny bow window of a century-old house on the South Coast. It is one of a row of forty, and the forty when they were built were all exactly alike. To-day twenty of the forty show variations from the type of their birth. About half of them have changed the segmental curve of small paned sashes for angular bays with windows of larger panes. Some of the houses have suffered, it is true, from the common sense of builders, others have suffered more from the uncommon nonsense of architects, and one, the most ambitious of all, bears upon its face the mark of that special form of diluted Ruskinism which is discoverable chiefly in the regions near the stations at Oxford and Cambridge.

The whole row of houses must, in fact, have been far more beautiful a hundred years ago, or, say, eighty years ago, than it is to-day, though in those long-ago times it was nothing more than a collection of speculative lodging-houses built to a single plan, and very likely without the intervention of an architect at all.

I think we are now getting down together to the very rock bottom of the anti-architectural position. We are letting ourselves admit that a few generations ago, even in Georgian or perhaps early Victorian days, very decent architecture was produced in a vernacular rather than an architectural way; that some of this simple builders' architecture has since been actually spoiled by architects; that the bare necessities of housing might be carried through without architects at all, or at least on stereotyped plans with only a distant architectural origin; that among larger buildings many might be entrusted to engineers and surveyors; that though architecture may be interesting, it is not necessary except as a mere measure of preliminary caution in arrangement, and finally that all art, and among the arts architecture, is a luxury.

Gentlemen, we have built up the case against architecture, and it is with the greatest happiness that I assure you that almost every link in the chain of indictment is either a fallacy itself or, if logical, based upon an imperfect vision of the truth.

An Elementary View

Let us begin at the very elementary view of architecture which we took at the beginning. We spoke of the rather humorous definition of the architect as the man who makes cheap mistakes on paper so as to prevent the making of expensive mistakes in actual construction. And we half concluded that if that were the architect's function he need not dub himself architect at all, but might better be described as a constructional surveyor. That half-conclusion, let us assure ourselves, was more than half a mistake.

Who is the best judge of a mistake in preliminary design, the man who knows much about architecture or the man who knows nothing? Surely the man of knowledge. However simple the problem under consideration may be, the man who best knows how to carry out that problem with directness and simplicity is the man who has studied the whole theory and history of ways and means in construction.

Let it be an axiom of architecture that great knowledge and sound knowledge does not produce complication of design, but, on the contrary, simplicity.

It is abundantly true that the architects of some periods of the nineteenth century not only departed from the beauty of their predecessors' work, but virtually spoiled and mutilated a great many of the actual buildings which those predecessors had left. How came this about? Not from excess of architecture, but from excess of ignorance. How, again, came it about that the vernacular methods of the eighteenth century in England produced in town and country work which we all admire to-day for its chaste sincerity? It was not because it was carried out without architects, though a great deal of it actually was; but because the tradition of design in the classic forms first brought to us by the Renaissance had gradually permeated the workshops of carpenters and masons to such a degree that they, without efforts at ambitious and ignorant change, were content to carry on the use of the forms which they knew to be acceptable to their employers.

But the origin of those forms was architectural. It was due to the architects of England who laboured in the culture of the Renaissance that the shapes and proportions they had loved and cherished found their way into the hands of workmen, and became in those hands so familiar as to be employed almost subconsciously.

And how did we lose that tradition? For one thing the Gothic Revival came, and with it a spirit of liberty. I have a great respect for the Gothic Revival, a great respect for its pioneers, a great wonder that some of its products were so good, and a still greater wonder that some of them are so bad.

But the Gothic Revival was a mischief-maker, and the mischief it made was the exact opposite of the intention of the movement. The Gothic enthusiasts taught not only that the Gothic styles were the Christian styles, but that they were the true styles of the British Islands. In fact, one of their pleas was, Let us be true to national tradition. But the result of the plea was very largely a departure from all tradition of every kind. For to the classic purists of England the Gothic Revival came, first, as an enemy—as a heretical foe; and, secondly, after the manner of such warfare, as an enemy to be parleyed with.

There sprang up alongside of the Gothic purists—whose purity, by the way, was not always particularly English—a race of designers, recruited from the ranks of the old guard, who realised that the days of classic purity were numbered, and who came to the conclusion that if pure classic was no longer any good, and Gothic was not their game, the only way of success was impure classic. Impure classic came in, and, to do it justice, it flourished amazingly.

But this was not all. I date from the days of the battle of the styles the birth of the awful theory that design is invention pure and simple, that adherence to precedent is slavish, and that the architect's function is to strike out a new line.

In other words, the last half of the nineteenth century begot a race of architects who, from vanity, ignorance, or perverted conscientiousness, produced an architecture, or rather a lot of architectures, of their own, and they brought great disgrace upon their art.

Tradition and the Frenchman

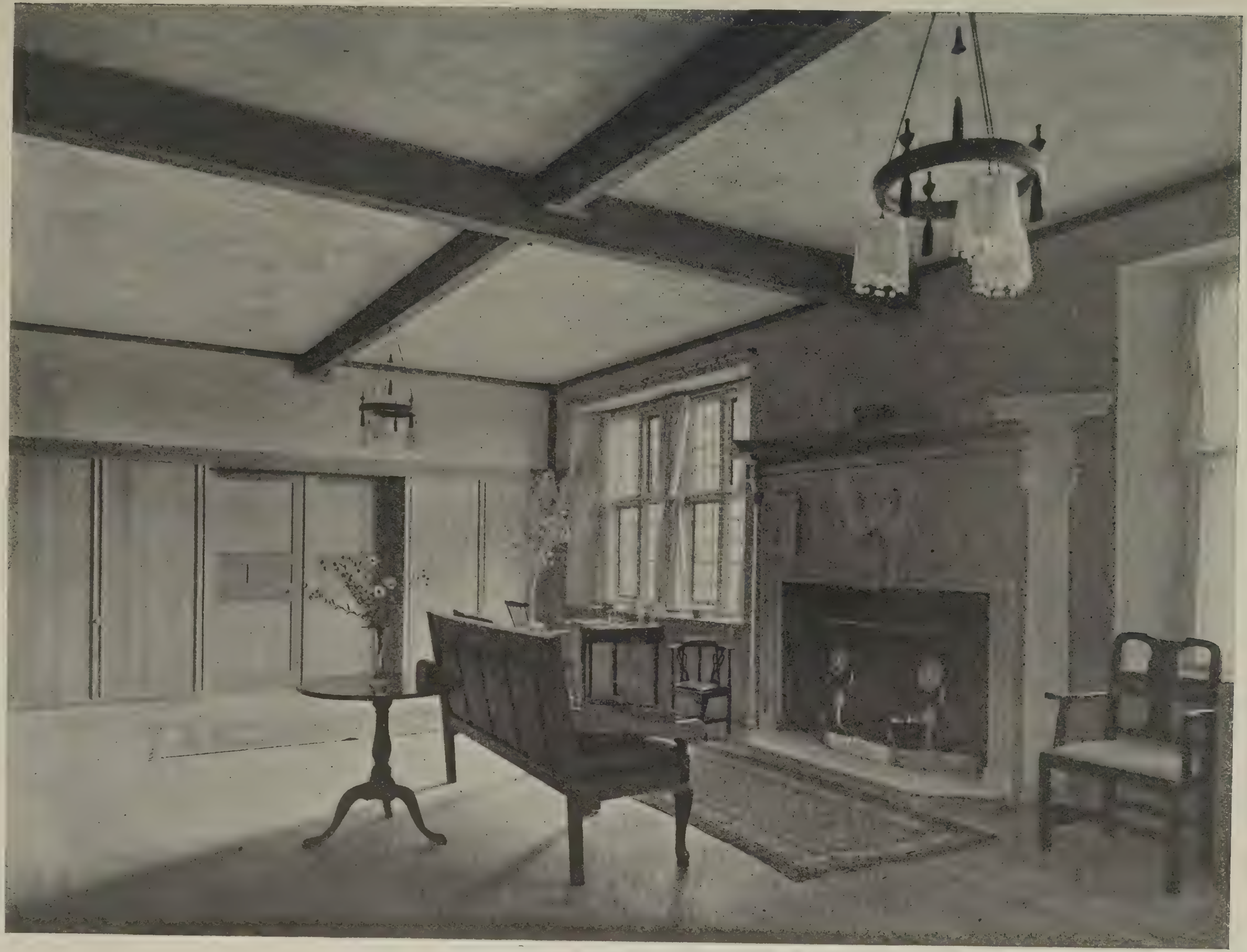
These reflections bring me to the consideration of tradition, with which this matter of invention is closely allied. Let me illustrate the point by a question of language. What is the French for "I designed that building"? If you say "Je l'ai dessiné" you mean that you have *drawn* it. You say no more than that you were the draughtsman who made the drawings, and thereby may or may not be the architect. Go to a Frenchman in your difficulty, and say to him, "If 'dessin' only means drawing, what is the French, please, for design?" He will answer, "Composition," and in that answer you get the explanation of a good deal. The Frenchman is humble enough to admit that his authorship consists of the putting together of existing elements. And how existing? Surely as accepted traditional facts, features and proportions.

It is characteristic of all true architecture that it must conform to the past. Without such conformity it fails, in that the lovers of architecture, when regarding it, will miss that recognition without which appreciation is impossible. In fact, without a basis in the known past architectural design cannot exist as art.

And the reason for this is far from superficial; it lies deep in the inmost nature of the art itself. Architecture is a language—a means of intercourse between man and man, and that intercourse takes place not only between living contemporaries, but between us and the past, between us and the future. We designers

Modern Domestic Architecture. 26.—Tuesley Court, Surrey: The Hall

E. Guy Dawber, F.R.I.B.A., Architect



Tuesley Court, a charming example of Mr. Dawber's domestic work, stands on a beautiful site, sloping to the south, with extensive views over the Surrey Hills. The house is built of local stone, with brick dressings and chimneys, and brick mullions and jambs to the doors and windows. All internal finishings are in oak, left untouched, with wrought-iron fitments. Simplicity is the dominant note throughout.

are links in a chain, and if the little link which is us has no hold on the link behind it will probably have none on the link ahead. To forge, instead of a link, a shapeless twist of metal incapable of attachment is to be first unfaithful, and, secondly, thank Heaven! unrecognisable.

Most good architects work unconsciously, and by their very training, as well as by the instinct of taste, conform to this law of attachment. But if they become conscious at all of what they are doing and of the characteristics which lead them to their success, they must realise that they are winning their way by fidelity. How little such fidelity really deprives a designer of individuality and adaptability only those know who have studied with knowledge the work of the men who have knowledge too.

Again, the existing architecture, the existing works of our country are a precious trust of which architects only can be the fully qualified trustees.

Any idea that the functions of architecture as a profession can be confined to ministering to the whims of the rich altogether overlooks the reality of the country's obligation to itself.

Architecture, let us joyfully admit it, is not a luxury at all. Buildings of all sorts are necessities, or, at least, buildings of many sorts. And since architecture really is not an addition to building, but merely a synonym for skilled excellence in building, it is clear that the right ordering of the nation's buildings, whether public or private, is a matter of national importance.

A State, like an individual, has an obligation towards good manners. A country with bad architecture is like a man with unsuitable clothes and devoid of the habits of decent society. A country, like an individual, may be poor, but poverty will not excuse barbarous lapses from the rules of social behaviour in the man, nor will it be an acceptable reason for squalid building.

The Case for the Architect

So we have got this distance in rehabilitating architecture as a pursuit worthy of the pursuing. We have found (1) that some sort of a pre-arranger is necessary to all building that is not to be subject to the costliness of mistakes, (2) that this pre-arranger should be for preference a man of knowledge, (3) that the exercise of knowledge does not lead to expense nor to anything extraneous to the ordinary functions of a building, (4) that architecture is a fulfilment of obligations to the future and to the past, and lastly (5) that we owe it to our nation, on grounds of decency, that her buildings should be in architectural hands.

All these points are, I think, beyond dispute, but if they are any of them assailable, the assault is, I believe, from one quarter only.

Is not the only point on which we feel any doubt of conscience the suggestion that architecture never adds to the cost of a building, and never adds to it either anything unnecessary to its practical uses? Certainly such a statement ought not to be made; and that is one reason why I have not made it. What I have tried to say is that the fact of a man's being an architect, and a highly educated one, does not necessarily or rightly make him the producer of buildings which contain unnecessary materials or cost an unnecessary price. There are, in fact, two considerations arising from this idea which are both worth realisation. One is that the most dangerous form of extravagance in building is the employment of uneducated or half-educated architects, and the other is the question of decency, of fittingness. It is perfectly true that elementary walls and makeshift roofing, though they will keep out the weather, are not suitable for the dignity of high purposes.

We can make this evident by going to the analogy of clothes. A man cannot go to a county ball in a ready-made sports-jacket and a pair of grey flannel trousers. Nor would justice be decently administered by a judge in a fitter's overall. "Why not?" says the logical man. The answer is because these things really do count, and the logic which ignores them ignores a big piece of human nature. Architecture represents, among its other functions, the same theory of decency. It would be a dishonour to equity and a real hindrance to the cause and dignity of right and wrong if a civilised and ancient country were to hold its courts in a breeze concrete shed with a corrugated iron roof. Even an engineer would recognise this. And if for reasons antagonistic to architecture you employed an engineer to build your law courts he would in all humility, but out of an urgent sense of decorum, do something desperate with catalogue goods in cast-iron.

To avoid this, sensible people consider that an architect is the man to give the right handling to those elements of permanence, dignity, and decency which you require to have woven into—not plastered on to—your important public building.

In other words, every monumental building aims not merely at weatherproofness, but at homage of some kind or another. That homage probably involves sacrifice—most homage does—and you call in your architect as the High Priest of that sacrifice.

It is not the architect who says, "Give me your shed to design and I will make it cost a pretty penny." It is, on the contrary, the very building that cries out, "I have got a meaning, I want to tell it out. I am afraid I shall cost a pretty penny, but for heaven's sake set the right man to see that my pennyworth is pretty."

Up to this point we have been trying to justify on practical grounds the existence and continuance of architecture, and, I hope, with success. We have treated architecture as the defendant, and have asked her to show cause why she should not be condemned. But, of course, we all really know that architecture is in the position of a very strong plaintiff, and that if there really were in this topsy-turvy world any question of abolishing architecture as being inconsistent with the requirements of the common wealth of the future it would be mankind who would be the defendants, or rather the prisoners, at the bar. Man may be man and master of his fate, but there are bigger things in this world than man himself, and one of those Big Things is Architecture. Our great craft is no mere sport for man's idleness, no mere outlet for superfluous wealth, still less a creature of man's whim, but a force, strong, ancient, and gracious, overstepping the boundaries of nations, outliving the dynasties of kings; a force which we can and sadly do disgrace; a force which to serve is great honour, which to neglect is great folly; and lastly, a force which, if withstood, would take upon the withstander a signal revenge.

Let us, therefore, take up again the happy burden of service under this great Power, and to the end that the service may be in our time and in the days that follow us rendered with great credit to ourselves as well as with due affection towards the great Power itself, let us insure that every man who goes forth from among our people to join the ranks of the architects has learned all that he can possibly be taught of the history, the mystery, the hidden secrets, and the open splendours of that unquenchable art of architecture, which is not only worth while, but worthy all the while.

Art is long, they say, and life is short. Let architects live as long as they can then, for their art is a long way the longest.

Modern Furniture Design and Decoration

Mr. Percy A. Wells delivered an address, illustrated by lantern slides, upon "Modern Furniture Design and Decoration," at the Architectural Association, on Monday evening last week. Mr. L. S. Sullivan was in the chair.

Mr. Wells said that he quite agreed with Mr. Atkinson in that the architect was the right man to lay down the furnishing scheme, and he had not been consulted in the past so much as he ought to have been. It must be painful for an architect to know that his rooms were to be degraded by the furniture that was to be put into them. In the new housing schemes it would have been a splendid opportunity if in just one instance the architect had been asked to design or have made furniture suitable for the cottage.

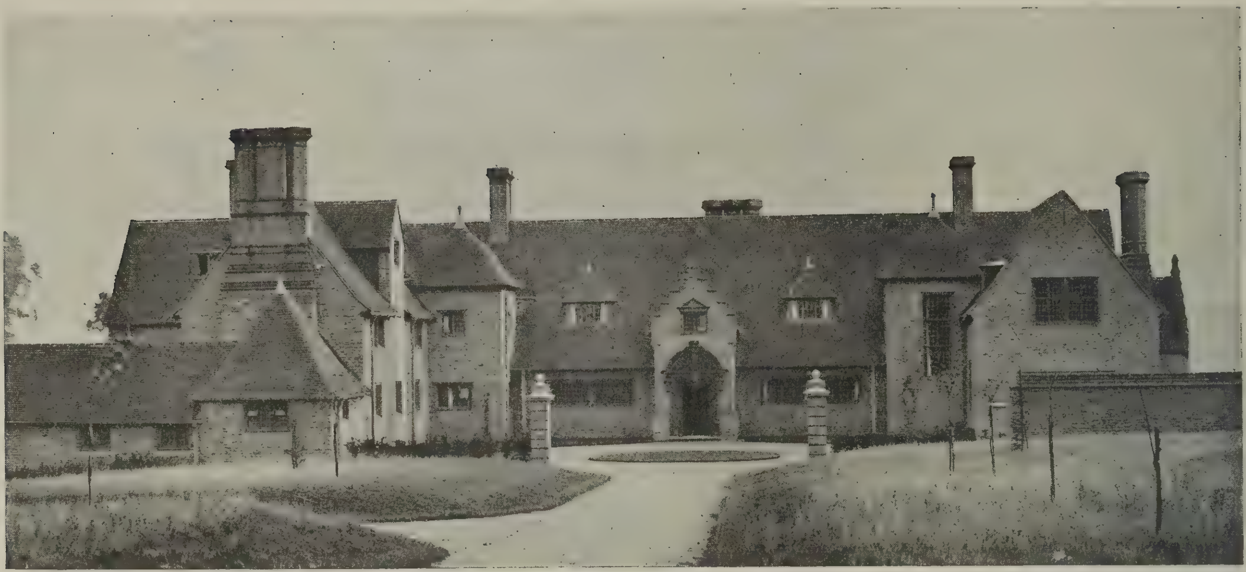
Most modern furniture, in its design and manufacture, was dominated by historic styles. This seemingly slavish imitation had really led to a great improvement generally speaking. Imagine what a sideboard was like in a middle-class house twenty years ago, with its plate-glass mirror, columns, and pediment. That was fast dying.

The best English furniture might be claimed to be the best in the world. It was proved by the demand from America—particularly South America—and even France. That was partly because of the great tradition behind us, and it was very unlikely that English designers and makers would ever get away from that great tradition. On the other hand, one had to admit that the slavish reference to style had often blotted out all initiative and intelligence, and would not lead to any natural growth or development. One could not get entirely away from the great tradition of style unless one got down to first principles—honesty in workmanship, utility, simplicity, and economy.

In the production of modern furniture there were about four types of producers—the individual designer, such as Ernest Gimson, W. R. Lethaby, and Sir Robert Lorimer, the commercial firms, the schools of furniture design, and cottage furnishers. The individual had very little influence on the mass of work as a whole, for he could only appeal to people with money and taste.

He believed that machine-made furniture need not necessarily be ugly. Though cheap, it could be honest and pleasant to look at. We could not, of course, go back to the days when the workman had an entirely free hand, however one might desire that, but the machine could still be a servant instead of a master.

The school had more influence than the



Entrance Front.

individual designer, because it could afford to make experiments. The Central School of Arts and Crafts had turned out some very creditable and finely-designed pieces of furniture.

The study of style had not only improved actual workmanship, but also the sense of proportion, and had given a very close knowledge of material, and the revival of eighteenth-century furniture had meant more to the workman than he realised in bringing him back to the bench and eliminating the machine.

Carving, it had to be acknowledged, had almost gone from household furniture. What was done applied chiefly to civic furniture and ship furniture. But there had largely been a revival of paint—especially for cottage work. Curiously, people seemed rather shy of painted furniture—perhaps because it was something new—although they liked plenty of colour about them in clothes. And yet it was perfectly honest, and it enabled one to use woods which could not be stained. It was also bright and cheerful, and he recommended it to country folk, and even to people living in the suburbs.

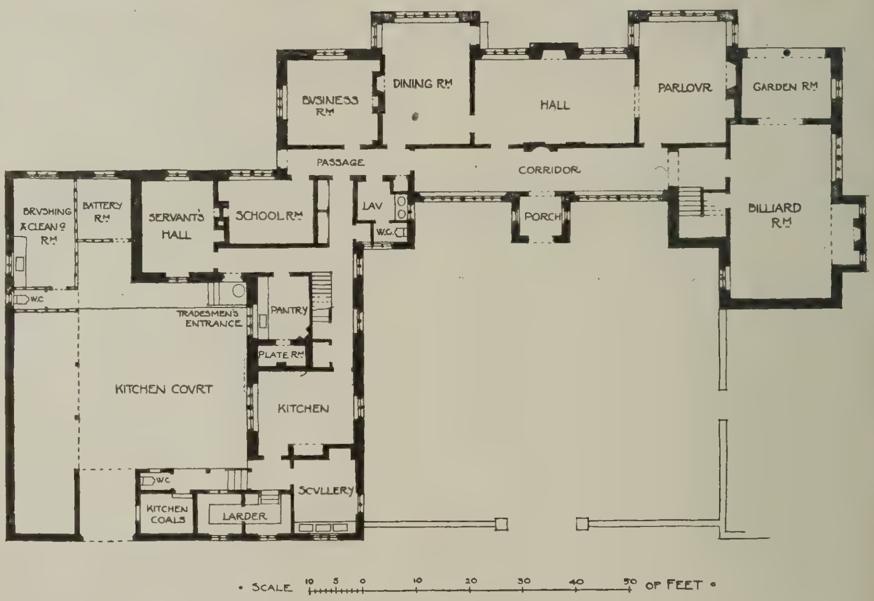
Tuesley Court, Surrey

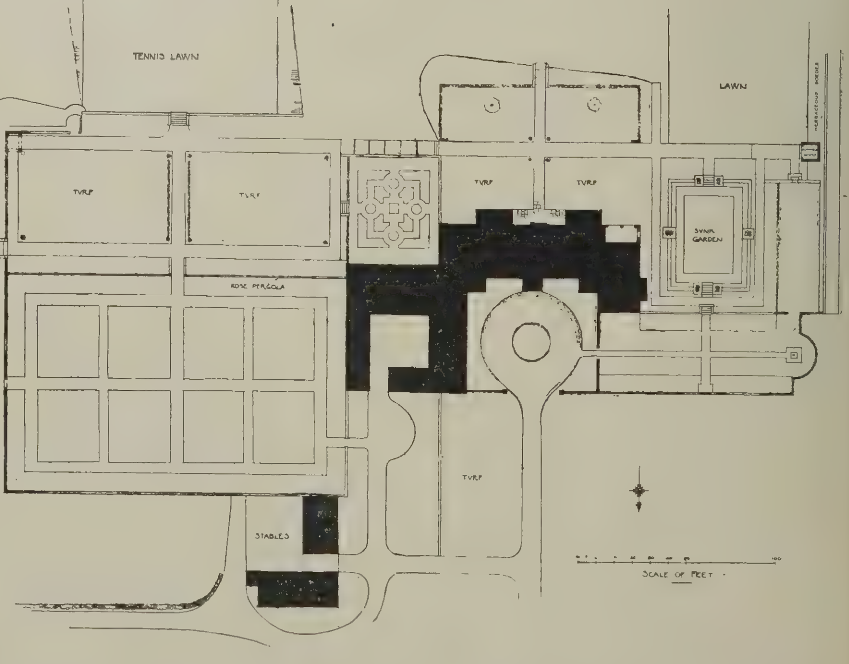
Erected some ten years ago, Tuesley Court stands on a beautiful site sloping to the south, with extensive views over the Surrey Hills. It is built of local stone, with brick dressings and chimneys, and brick mullions and jambs to the doors and windows. Inside, all finishings are in oak left untouched, with wrought iron furniture, etc. Simplicity of planning and detail has been aimed at throughout, and everything in the way of unnecessary ornament has been scrupulously avoided.

Stables and garage, entrance lodges, gardens, etc., were all planned and built at the same time, and of the same materials as the house, so that no part of the premises is in any way inferior to the others.

The photographs reproduced in this issue were taken directly after the house was completed, so that justice is not done to the work, which is now beautifully mellowed, with the gardens nicely clothed, giving an effect of completeness and finish.

The work was carried out by Sir James Carmichael's firm from the designs of Mr. E. Guy Dawber, F.R.I.B.A.

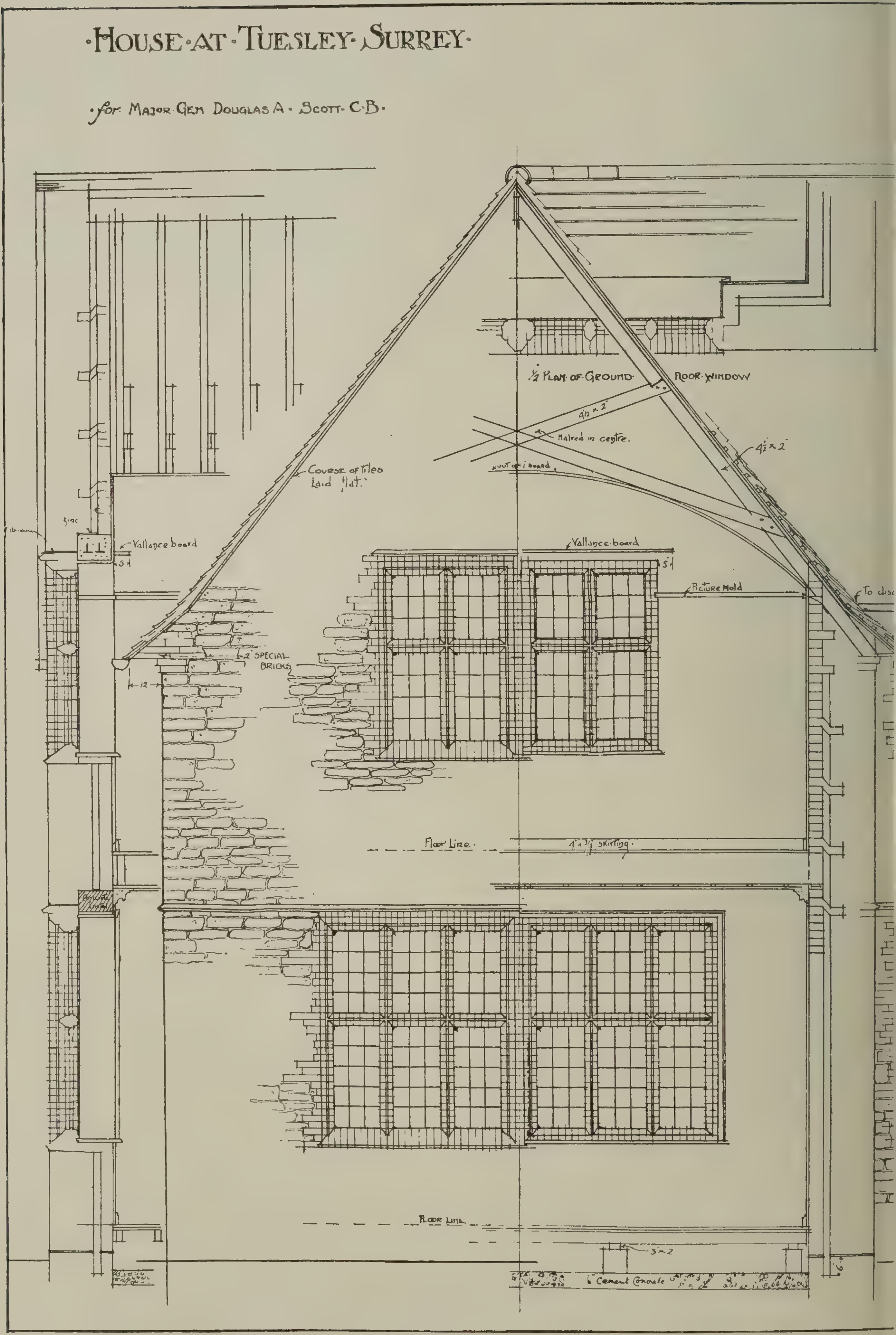




TUESLEY COURT, SURREY. E. GUY DAWBER, F R.I.B.A., ARCHITECT.

Architects' Working Drawings. 26.—Tuesley C

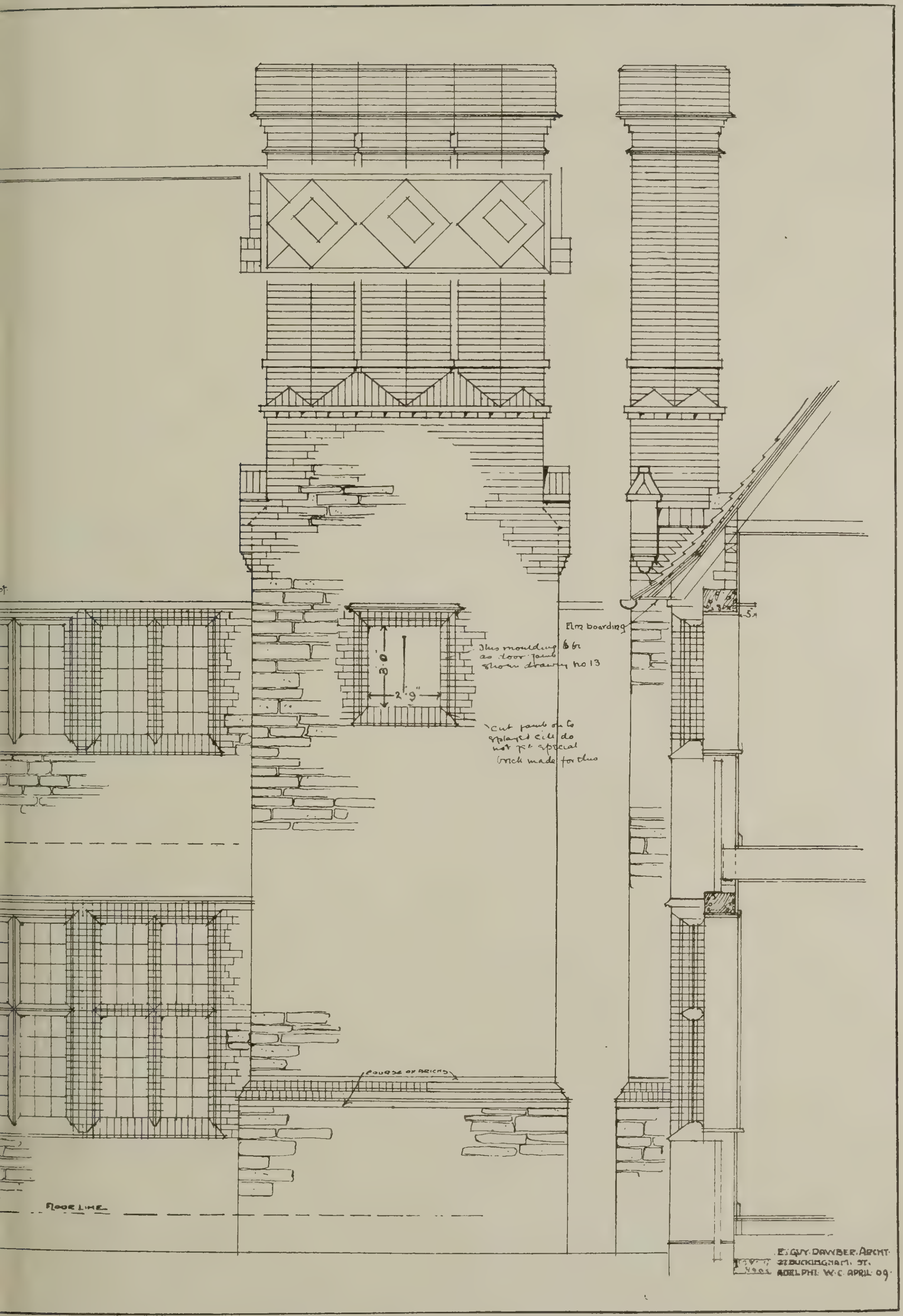
E. Guy Dawbe



Tuesley Court, erected some ten years ago, is a delightful example most beautiful scenery of a county famous for its domestic architec stone, with brick dressings and chimneys, and brick mullions and jam

, Surrey : Details of Garden Front

.I.B.A., Architect


Elm boarding
This moulding to be as door jamb shown drawing no 13
3'-0"
2'-9"
cut jamb on to splayed cill do not get special brick made for this
5"
COURSE OF BRICKS
FLOOR LINE
E. GUY DAWBER. ARCHT.
22 BUCKINGHAM. ST.
ADELPHI. W.C. APRIL 09.

rn domestic work on a considerable scale. Standing amid some of the house harmonises admirably with its environment. It is built of local doors and windows. Simplicity of character has been aimed at throughout.

Annual Meeting of the National Federation

MR. STEPHEN EASTEN, O.B.E., J.P., the President, occupied the chair at the annual general meeting of the National Federation of Building Trades Employers of Great Britain and Ireland, held on Wednesday of last week at the Connaught Rooms, Great Queen Street, London, over two hundred delegates being present.

The first item on the agenda was a resolution proposed by Mr. W. Moffat (Birmingham) protesting against the unnecessary delays arising in negotiations with the R.I.B.A. and the Surveyors' Institution relative to the National Building Code.

The resolution, which was remitted to the meeting by the Executive Council, instructed the Administrative Committee to press forward the question of a Government public inquiry, at which the professional bodies should be present, with a view to the early settlement and operation of the Code.

The motion was adopted, together with the suggestion that propaganda committees should be formed in each Federation and large town.

On the proposition of Mr. W. H. Nicholls (Gloucester), seconded by Mr. A. J. Forsdike (Sheffield), the meeting expressed its deep sense of appreciation of the services rendered by Mr. Stephen Easten in connection with Government housing, and it was agreed that suitable words should be embodied in the annual report.

The President, in reply, said that although he criticised the housing schemes in their inception, he felt that as the Government had adopted the schemes he could not stand aloof. He, however, felt that a Government Department had no right to subsidise a section of the community to the detriment of legitimate traders, and traders should kick hard when they added to that subsidy monopoly promises. In spite of Sir Robert Horne's statement that they had stopped Dr. Addison going on with his full-time schemes, the Ministry behind their backs let the housing contracts to the Guilds on terms which they had so generally condemned. The Guilds were given double the remuneration given to the builder under the "No. 3 contract," and, further, the Guilds had special monopoly clauses.

He complained of the way in which the Government had treated the ex-Service men, and said he believed that if they had taken up a firm attitude no trade union in the country would have objected to it, and the whole country would have supported them. The Government went in fear of the trade unions, and had adopted a most idiotic, senseless, and wicked policy. Referring back to the Guilds, who, he said, boasted that bricklayers were laying 750 bricks a day, the President said he did not doubt it, but he knew men today who were laying 1,200 bricks. They could not get output unless men were given an incentive to work, and sooner or later they would get payment by results. The Federation and the Shipbuilders' Federations hoped there would be some working arrangement between them, because they must realise their industries ran side by side, as the prosperity of one depended on the other.

TUESLEY COURT, SURREY: STAIRCASE AND LANDING.
E. GUY DAWBER, F.R.I.B.A., ARCHITECT.

The Industrial Council

Mr. W. H. Nicholls (Glos.) proposed, and Mr. R. P. Chessum (London), seconded, a resolution that consideration should be given to the issue of the usefulness or otherwise of the "Industrial Council," and that the subject be referred to the Administrative Committee for consideration and report.

In the course of the discussion reference was made to the "untimely" report of the "Cost and Management Committee of the Industrial Council," which, it was said, caused so much irritation and annoyance among employers throughout the country.

Mr. Chessum, who refused to continue serving on that Committee, said he believed the propaganda side had been cut out of their consideration, and they were now deliberating upon what he hoped would be more sane proposals.

The resolution was carried.

Threatened Strike

The Secretary, replying to a question by Mr. F. Winterbottom (Oldham), said that conferences had taken place between the master plumbers and the Federations with a view of seeing whether they could come to a basis of agreement.

Mr. Porter (Derby) said that they had been threatened with a withdrawal of labour unless builders employing plumbers gave the increase which the master plumbers had agreed to. They had refused to give it, and had been told that unless they paid it within seven days the whole of their employees would be withdrawn. They were also given three weeks' notice that unless the plumbers working for builders went back into the old associations, they would withdraw the whole of the building labour from those places in Derby which employed plumbers. It might be an idle threat—as they had received no official intimation—but if a fight did come Derby asked for the united support of the Federation. (Hear, hear.)

The President, amid applause, assured the speaker that the Federation would be behind Derby in any fight that took place.

The report was adopted.

On the motion of Mr. Lowry (Haslemere), seconded by Mr. F. J. Gayer (London), it was agreed that the Executive Council cannot approve of the course suggested by the chairman of the National Conciliation

Board, acting in his independent capacity, that wages should be stabilised for twelve months, there being very sound reasons that this course would be opposed to the true interests of the industry as a whole and quite in opposition to the present and future economic condition of the country. It was explained by the secretary that the resolution arose from a letter from Mr. John Croad, in which he stated that at a meeting of the Conciliation Board, held December 21, 1920, he made the suggestion that if both operatives and employers would withdraw all notices for increases and decreases in wages now pending, and agree to give no further notices for twelve months, it would do more towards stabilising the industry and settle unrest than any number of meetings of the board.

Luxury Buildings

On the motion of Mr. W. Moffat (Birmingham), the following resolution was passed: "That, having reviewed the condition of affairs in the country, and the building trade in particular, this general meeting of the National Federation strongly recommends the Government to consider, in view of the decreased volume of building work generally, the desirability of repealing all prohibitory powers for building work now in operation under the Housing (Additional Powers) Act, 1919, and regulations made thereunder in the short Act to be introduced in the forthcoming session continuing the subsidy scheme of the Ministry of Health."

Election of Officers

The President proposed the election of Mr. A. J. Forsdike (Sheffield) to succeed him.

Other officers elected were: Senior-Vice-President, Mr. John Good (Dublin), Junior Vice-President, Mr. W. H. Nicholls (Gloucester); Hon. Treasurer, Mr. John Croad (Gosport); Hon. Auditor, Mr. H. Matthews, J.P. (Manchester), and Mr. F. G. Hodges (Burton-on-Trent).

Law Report

Duties of Architects

Marsh v. Hider.

January 21. Official Referee's Court.
Before Mr. G. A. Scott.

Mr. G. A. Scott gave judgment in an action which had occupied the Court during several days, in which the Rev. J. Marsh, of Colchester, the owner of an old public house in Beak Street, Regent Street, known as the Coach and Horses, claimed damages for alleged negligence in converting the house into premises to be used for other business, against Mr. Hider, the architect.

The Official Referee, in the course of his judgment, said that the lease of the house, which was a very old one, expired in 1916, and the owner, the Rev. J. Marsh, determined to put it to other purposes, and with that object in view the services of Mr. Hider were engaged by Mr. Saunders, plaintiff's solicitor, and it was now alleged that Mr. Hider had been guilty of breach of duty in carrying out the work. After several interviews the defendant inspected the premises three times, and in July, 1916, he reported to Mr. Saunders. That report, however, was not an opinion, but an indication of the sort of work which he thought ought to be carried out. The report indicated a drastic scheme of reconstruction of the second and third floors. At that time a contract for more than £500 was not legal, and it was very difficult to get labour or materials then. Mr. Saunders had said that Mr. Hider had pledged his professional skill to make the building a warehouse fit for the storage of cloth goods, but Mr. Hider said that he only contemplated making the building useful for the Golden Square trade. He (the Referee) was not satisfied that Mr. Hider had undertaken that the second and third floors should be capable of carrying a certain load, but it was arranged that the old beams should be retained and strengthened.

The place was let for warehouse purposes, and the tenants put in a lift by which heavy bales could be raised to the upper floors, and that involved the necessity of floors capable of sustaining 2½ cwt. to the foot super. It was admitted that the floors were not strong enough for that, and it was said that the architect was liable to make them strong enough. To his mind it was most improbable that Mr. Hider made, or could have made, any such statement as that attributed to him regarding the weight the floors would carry. Mr. Hider's duty as architect was within the conditions then prevailing, and was to draw specifications to convert the floors into premises for business purposes. He had come to the conclusion that he, Mr. Hider, had shown not only ordinary skill but remarkable ingenuity, and that he had fully carried out the instructions given him.

That finding of fact disposed of half the case. The second head of complaint was that Mr. Hider had been negligent in carrying out his work. A warranty of skill was not the warranty that the course advised would necessarily succeed, especially under extraordinary conditions. Who could say that an architect lacked skill if his opinion proved erroneous as to what weight an old timber would support? In cutting the joists for the purposes of making the lift the tenants were alarmed at the condition of the wood, and they brought in an architect, but that gentleman had not been called. To his (the Referee's) mind the real gravamen of the charge was that the defendant permitted joists or bressumers to be used which were defective, and should therefore have been rejected. As to the defectiveness, he found some difficulty in arriving at a conclusion as the evidence on the subject was very conflicting. To his mind, however, the evidence proved that the timbers were not in a condition to carry weight. Professor Lefroy had told them that the worm-eaten condition complained of was produced by a beetle which merely attacked the outer sap of the wood. The joists were sound and properly left as floor supports, and he would hesitate to say, after hearing the evidence, that Mr. Hider had been negligent. The flitch beams without the flitch plates gave ample support at the ends, and the flitch plates gave additional support.

He did not think he was called upon to decide, upon the conflicting evidence, as to what the floors were capable of carrying, and the view he took was that the matter did not affect the defendant. In his judgment, the defendant had exercised that skill which was expected of him as an architect, and had carried out the work with all proper care and skill, having regard to the great difficulties attending building operations at that time. The plaintiff was to be congratulated upon the condition of his premises, and there was no reason why they should not last for many years. There would be judgment for the defendant, with costs.

R.I.B.A. Examinations

The Final: Alternative Problems in Design.

Subject LV.

(a) A Gateway Entrance Tower to a College, with porter's lodge on one side of entrance. Roof to form feature in design.

Drawings.—⅛-in. plans, section and two elevations: ½-in. detail.

(b) A Mission Church in Timber on a brick or stone foundation on a site 30 ft. wide. Light from front (west) and top, but the choir vestry under the chancel may have east light. The site falls to the east about 4 ft. No entrance from rear.

Drawings.—Plans, elevations, and sections to ⅛-in. scale, and detail of front and cross section to ½ in.

Subject LVI.

(a) Memorial Library and Reading Room at a Large Public School.—The buildings stand alone, on level ground, materials: stone, oak, red roofing tiles.

A plan reproduced in the conditions shows the site at the junction of two roads, with a frontage to one of the roads, which is 50 ft. wide, of 250 ft., and to the other, a 20 ft. wide road, of 200 ft. Heating to be by means of radiators; one open fireplace. Dimensions of internal area, 50 ft. by 25 ft.

Drawings.—Plans and elevations to ⅛-in. scale. Portion of building with entrance doorway to ½-in. scale.

(b) A Reinforced Concrete Daylight Factory.—Total floor area, 70,000 ft. super (provision to be made for future extension). The following accommodation to be included:

Ground Floor.—Manager's office. Three general offices (totalling 1,500 ft. super). Despatch, 800 ft. super (enabling lorries to be loaded under cover). Check office (adjoining despatch). Time hall (at employees' entrance, for checking employees). Works foreman's office. First aid ward (near a lift). Engine room, 300 ft. super. Heating chamber. Fuel store. Garage (for two works cars, no lorry accommodation required).

General.—Two goods lifts, each 6 ft. by 5 ft. Lavatories (disposed either on every floor, or every other floor; total number of employees, 400 men, 200 women). Men's locker rooms, women's locker rooms, both adjoining lavatories.

Top Floor.—Canteen. Dining-room for twenty (office staff). Kitchen, wash-up, with hatches to canteen. Stores, etc. Kitchen staff lavatory

(Note.—Factory outside London area.)

Drawings.—⅛-in. scale: Plans, section, and two elevations; ½-in. detail.

Subject LVII.

(a) A Pier Pavilion, to comprise a concert hall, 45 ft. by 80 ft., with stage for orchestra (twenty performers) and such as can be used for small plays. Dressing-rooms for both sexes. Refreshment bar.

Drawings.—⅛-in. scale: Plan, section, and two elevations; ½-in. detail of a bay.

(b) Stone Lighthouse.—The light to be 60 ft. above sea level, on an isolated rock close in shore.

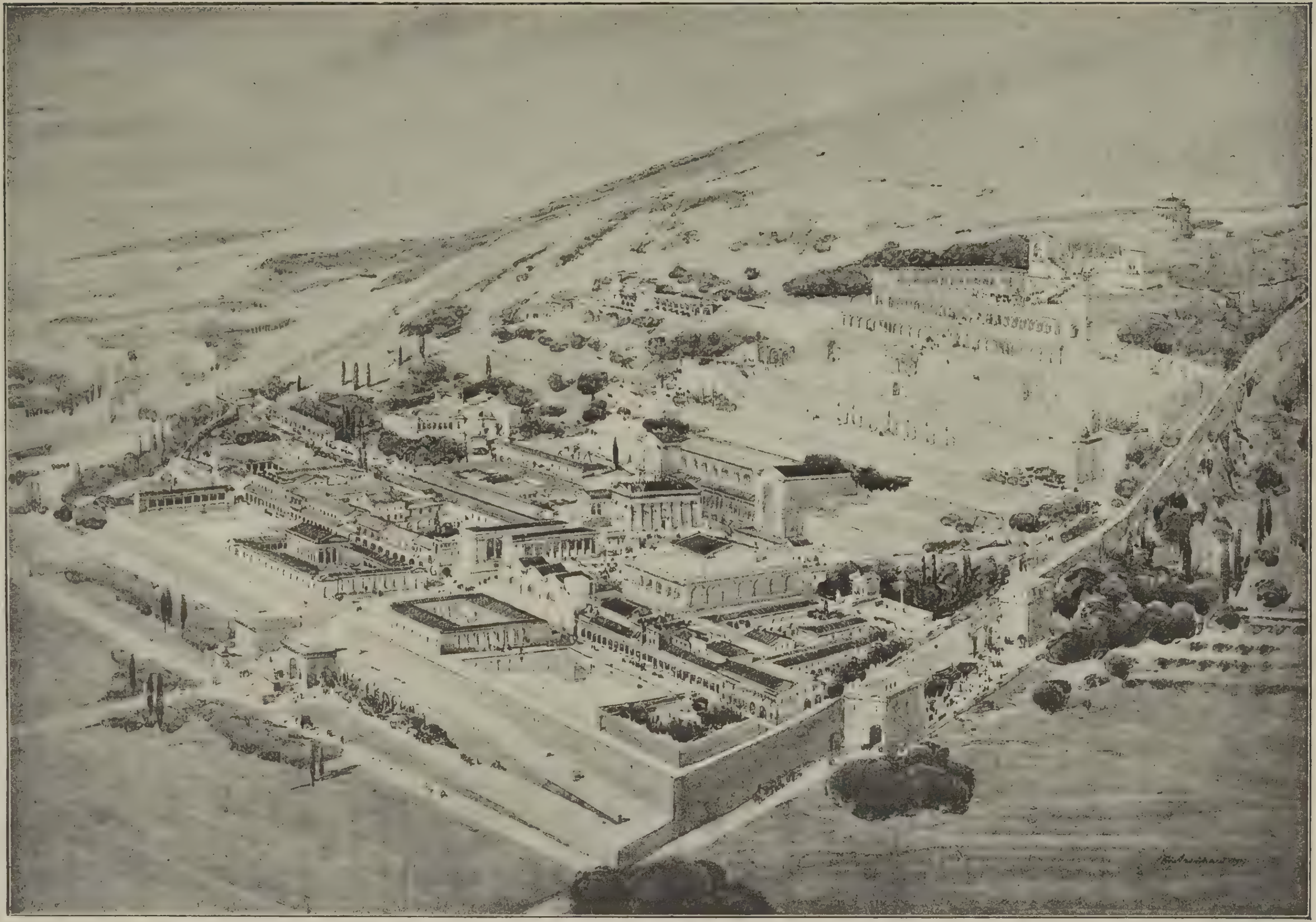
Drawings.—Plans and sections and elevation to ⅛-in. scale. Details, where given, to be ½-in. scale.

Dates for Submission of Designs in 1921.

	Subj. LV.	Subj. LVI.	Subj. LVII.
United Kingdom ...	Feb. 28	April 30	June 30
Johannesburgh ...	April 30	June 30	Aug. 31
Melbourne	May 31	July 30	Sept. 30
Sydney	May 31	July 30	Sept. 30
Toronto	Mar. 31	May 31	July 30

A Study for the Restoration of Praeneste : General View

By H. Chalton Bradshaw, A.R.I.B.A.



(*By courtesy of the R.I.B.A. Journal.*)

Mr. Chalton Bradshaw's brilliant drawings of Praeneste restored are the principal fruits of his tenure of the great Scholarship in Architecture at the British School at Rome. The "Restoration," of which a bird's-eye view appears above, was fully described by Mr. Bradshaw in his lecture before the R.I.B.A., of which a summary was given in our last issue.

The Geology of Constructional Stone*

By J. ALLEN HOWE, O.B.E., B.Sc., F.G.S., M.I.M.M.

THE two properties of stone about which we commonly require information are its strength and its durability. For the first it is customary to investigate the behaviour of the stone when subjected to pressure, tension, shearing, and so on. An estimate of the second quality is a more complex and difficult problem.

Taking first the tests of mechanical strength we find that the most commonly applied test is that of compression. Now this test, though apparently so simple, is beset with difficulties. There is the usual trouble in securing correct bedding in the machine; but it has been shown that by taking very great pains the duplication of results may be brought to a fair degree of accuracy. There are, however, pitfalls resulting from the special peculiarities of stone; thus, the drying of the block for the dry test may introduce positive or negative variations according to the nature of the stone, and in igneous rocks each duplicate test piece should be placed in the machine with the same orientation of the "rift" or other direction of weakness—a point frequently ignored. As a rule too few blocks of a kind are tested.

How great the variability may be is exemplified in some of the test records of the Charlottenburg laboratories; thus, in sixty different kinds of granite, test pieces from the same quarry showed an average individual difference of 31.6 per cent.: two kinds showed differences of 2 to 10 per cent., six of 11 to 20 per cent., twenty-three of 21 to 30 per cent., twenty-one of 31 to 40 per cent., and six of 41 to 60 per cent., and some gave even higher differences. Discrepancies of a similar kind are shown in the results of other kinds of rocks.

Merrill gives figures showing the following results for the three principal stone types, in lb. per square inch:

	Max.	Min.	Avge.
Granites, 100 tests ..	28,000	6,117	17,000
Limestones, 80 tests	25,000	3,550	14,000
Sandstones, 132 tests	20,000	1,149	8,500

Since the pressure at the base of a structure like the Washington Monument reaches only 314.6 lb. per sq. inch, it is clear that there is little point in carrying out the compression test except in so far as it may throw light upon some of the secondary qualities of the stone, and mainly for this reason the test has been applied to determine the effect of soaking and freezing. Even for this purpose it must be regarded as a costly and unreliable method.

The transverse strength of stone, or its resistance to bending, should be, as experience in buildings proves, a more useful test though it is not so frequently performed. The Canadian tests provide the latest long series of tests available; from these the following figures are taken (lb. per sq. inch):

	Max.	Min.	Average.
Limestones, 33 tests	4,291	818	2,224
Crystalline limestones, 8 tests...	1,091	3,737	1,907
Sandstones, 10 tests	2,186	417	1,283
Granites, 3 tests gave respectively	3,382	2,791	2,480

Baldwin Wiseman has published results for a number of British stones.

Tests on the elasticity of rocks have not been very numerous; probably the best are those of Adams and Coker. A few British stones were tested by Prof. Hudson Beare.

The following figures were obtained by Buckley upon Wisconsin rocks:

	Max.	Min.	Average.
Granite (with rhyolites), 21 tests	2,070,000	156,000	1,111,000
Limestones, 11 tests	1,835,700	315,000	786,000
Sandstones, 28 tests ...	400,800	32,000	.165,000

In spite of the fact that stones in buildings yield to shearing stresses more often than to pressure, comparatively few results of shearing tests are available. The United States Army carried out a number of tests some years ago, and R. Schenck employed this method to determine the weakening effect of soaking.

The tensile strength of stone has been to a great extent ignored, mainly on the quite reasonable ground that stones within a structure are practically always in a condition of pressure and rarely of tension. Hirschwald, however, has shown that very useful results may be obtained by the tensile test, carried out in the same manner as for cement. The test pieces may be of the rectangular form adopted by Hirschwald, or may be shaped on the lines of a cement briquette by the aid of a carborundum wheel. The advantages of this test are that it is easy to do and is cheap and quick, and thus a large number of pieces may be tested. Moreover, the broken ends of the stone are themselves capable of yielding a good deal of information to the experienced observer. It should be noted that in the process of freezing portions of the stone suffer tensile stresses.

In certain cases it is desirable to know the weight per cubic foot, but unless the stone is weighed bone-dry we do not know how much water it contains at the time of weighing; this probably accounts for the fact that the recorded weights of well-known stones are found to differ by as much as 15 per cent. In most countries a perfectly dry stone is never found in a building; it is necessary therefore to allow a fair margin for variation in all estimates of weight.

Determination of the specific gravity is required for the measurement of the stone's porosity, a very important character, for it has been well established that the more porous stones are the least resistant to the evil effects of moisture and frost. In this connection we have to remember the difference between the larger and the smaller pores. A stone with really large pores, like some varieties of Travertine, may be quite free from the disadvantages that attend the stone with a large amount of pore space. This test, combined with the weighing of the stone when partially and again when completely soaked with water, furnishes the data for the absolute and relative porosity and the ratio of absorption and coefficient of saturation.

Neither the water absorption nor porosity must be confounded with the *permeability*, for this depends not alone on the amount, but on the character of the pore space. The following figures obtained by Parker in the Canadian Government tests bring out this fact very clearly:

	Porosity %	Permeability.
Guelph limestone ...	15.883	90.5
Guelph limestone ...	14.62	155.1
Niagara limestone ...	10.443	12.75
Beckmantown limestone	1.313	0.72
Chazy sandstone .....,	17.517	2.25
Medina sandstone ...	10.44	2130.00
Potsdam sandstone	4.947	1.75

The permeability is here expressed in cc. of water passed through a plate of stone 3mm. thick in one hour under a pressure of 15 lb. per sq. in. No results were obtained by this method with stones having a pore space less than 1 per cent. It is of interest to note that readings taken at regular intervals showed in every instance that a decreasing amount of water was passing through; a circumstance that seems to indicate that the pores tend to become more and more choked with dislodged particles as the pressure is continued.

The influence of the softening effect due to absorption of water may be expressed as the ratio of the work to be done on the wet stone to that done on the dry stone when tested under similar conditions. This influence has been tested by compression, tension, grinding, rumbling, boring, and the sand-blast. In all types of stone there is a distinct increase in strength in the wet state, and figures obtained by the different methods of testing yield fairly concordant results. For instance, the following represent parallel tests on four sandstones by the boring and tension tests; weakening = wet result/dry result in each case:

Boring Test.	Tension Test.
0.11	0.18
0.63	0.60
0.48	0.62
0.95	0.94

The action of frost on stone is in some situations a familiar cause of disintegration, and it has been the subject of much experimental work. The position may be thus briefly summed up; life is too short to permit of experiments under natural conditions, therefore to obtain any result at all, methods far too drastic have been employed, and it is extremely doubtful whether the results obtained have been worth the expenditure of time and trouble.

The attack of frost on stone is affected by the presence of cracks, by the size of the pores and the total amount of pore space, but most of all by the content of water at the time of freezing. It has been conclusively proved that the stones above the ground-line in buildings hardly ever contain even half their maximum content of water. The corrosive action of strong acid vapours and weak acid solutions has often been tried upon stone. Here again the action is too drastic if the acids are strong, and is too slow if the solutions are weak.

---

* **Extracts from a paper read before the Concrete Institute.**

In dealing with building stones it would usually suffice to supplement the microscopic examination with tension tests, and the determination of the saturation coefficient. For road-stone the attrition test answers most purposes. If we had a complete set of tests of our British building stones they would no doubt be consulted on occasion.

Sand-washing Apparatus

By L. E. Walker

The method of washing sand usually employed is to take a tub of water and riddle the sand through a sieve submerged just below the water line. The sand sinks to the bottom of the tub, and gradually displaces the water. The "washed" sand is subsequently dug out of the tub. This method falls a long way short of the result aimed at, because the loam and other impurities which sand contains are held in suspension by the water, which soon becomes turgid, and as the sand gravitates towards the bottom of the tub it carries with it some of this suspended loamy matter.

With Portland cement at such a high price as it is to-day, it is essential that cement should be employed to the best advantage; and this can only be done if the sand and aggregate are perfectly clean. Clean sand is specially necessary in waterproofing work, for when loam is present it forms a film around the particles of sand and aggregate, thus preventing the perfect adhesion of the cement. This earthy film being pervious, minute ducts are formed through which the water permeates.

There is a popular idea that the cost of thoroughly washing sand and aggregate is prohibitive, but the installation of such simple contrivances as those here illustrated will enable considerable quantities to be dealt with at a labour cost even less than that of the method already described, which is little better than a compromise.

If it is desired to wash sand only, a small V-shaped trough should be made and set at an angle of about 15 degrees to the horizontal. The sand is thrown in and raked about, whilst water runs continuously from the upper end. The lower end of the trough acts as a weir over which the dirty water escapes, and this overflow may with advantage be localised by cutting a small notch, as shown in Fig. 1.

When it is necessary to wash and screen sand ballast an arrangement such as that shown in Fig. 2 should be erected.

The apparatus consists of a stout wooden watertight trough placed in an inclined position. At the upper end sideboards are fixed to form a hopper, into which the material to be washed and screened is thrown. The water supply pipe is protected by cover boards.

The most suitable slope at which to set the trough will depend upon the nature of the aggregate and the rate of the water flow. It is best determined by experiment, and should be so arranged that the gravel does not arrive at the screen until it is sufficiently washed.

Chute boards are fixed which conduct the sand and dirty water falling through the screen into the lower washing trough. A supply of clean water runs continuously into this trough from the upper end, and the sand is raked about, as already described, until all traces of loam are removed.

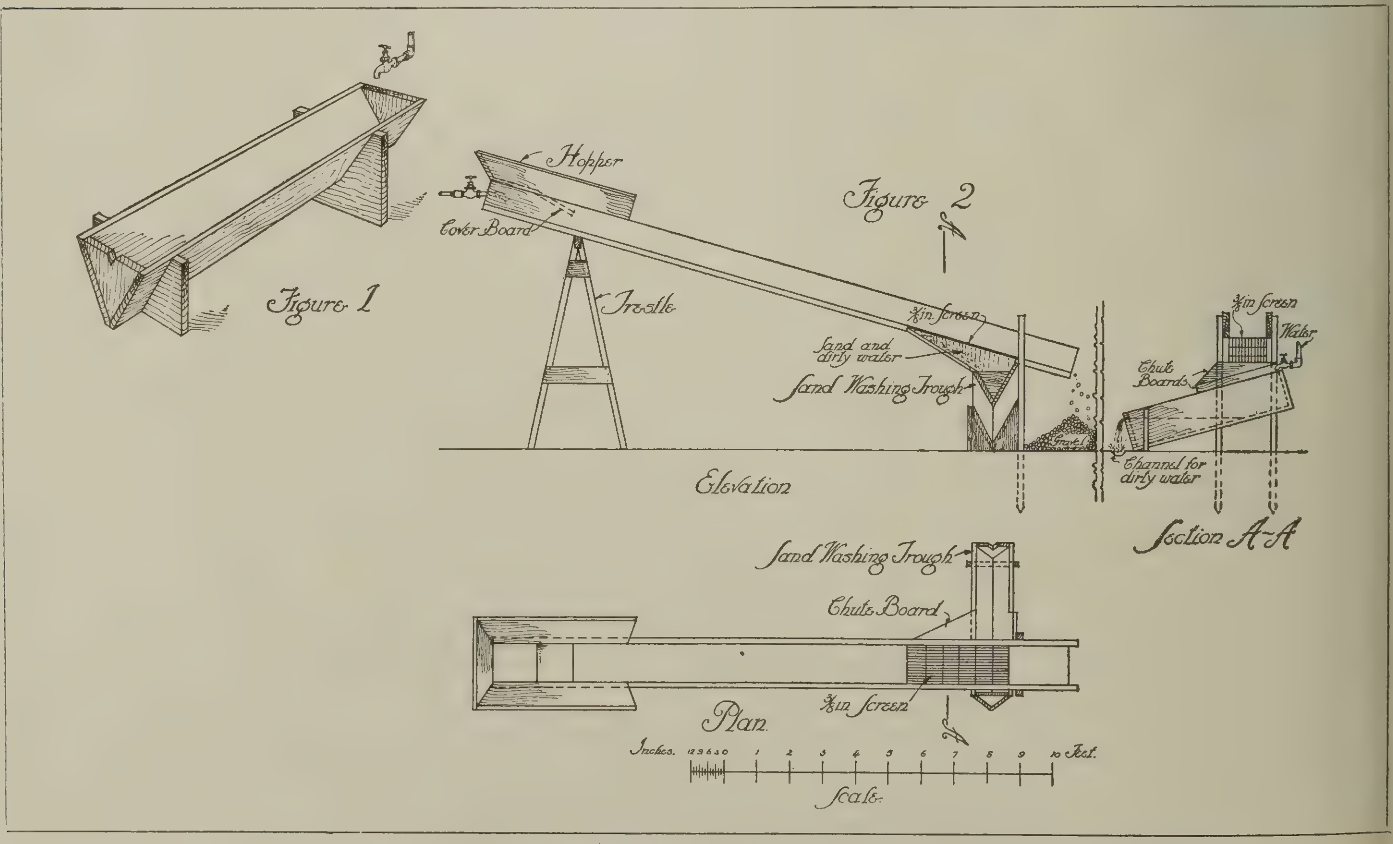
If the ballast contains a large proportion of sand the lower trough may with advantage be made larger than that shown in the sketch.

Book Notice

Training the Artisan.

One of the most popular topics for conversation arising out of the building trade dilution controversy is that concerning the various methods of training apprentices, and remarkably different opinions are often expressed as to the time required to produce a skilled artisan or mechanic. No matter what opinions are held, it is clear, for obvious reasons, that working from the specification, either alone or in conjunction with the ⅛ scale or detail drawings, should form the essential part of instruction. Perhaps the chief difficulties immediately confronting the apprentice are those connected with "reading" the various drawings, and understanding the almost legal formality of the specification clauses. To visualise the work in plan, elevation, and section is an "art" only in many cases to be laboriously acquired. To-day, however, the apprentice is fortunate in having within his reach the very practical class-books of Mr. Richard B. Eaton, from which valuable assistance may be obtained. Part VI., just published, consists, like the others, of large-scale detail drawings, each provided with a specification, the method in which they are presented coinciding with that actually employed during the erection of buildings. The first three parts of these books deal with general construction, and the last three with joinery generally, the salient features of Part VI. embracing interior fittings for small houses, skirtings, picture and chair rails, architraves, mouldings, panelling, kitchen dressers, bookcases, and sideboards. Exterior work is represented by pivot-hung sashes, skylights, porches, and hoods to front doors.

Building Construction Drawing. Part VI. By Richard B. Eaton. E. & F. N. Spon, Ltd., 57 Haymarket, London, S.W.1. Price 3/6 net.



SIMPLE CONTRIVANCES FOR WASHING SAND.

Societies and Institutions

R.I.B.A. Council Meeting

At the last meeting of the Council of the R.I.B.A. the following business was transacted:

The University Court, Liverpool.—On the recommendation of the Liverpool Society of Architects, the Council appointed Mr. E. P. Hinde (F.) to serve as the representative of the Royal Institute on the Court of the University for the years 1921, 1922, and 1923.

The Pugin Studentship, 1920.—The Council approved the report and drawings submitted by Mr. St. John Harrison, the Pugin Student for 1920.

London University Architectural Education Committee.—Mr. Arthur Keen and Mr. Paul Waterhouse were appointed as the representatives of the Royal Institute on the Architectural Education Committee of the University of London for the year 1921-1922.

Royal Sanitary Institute Congress, 1921.—Mr. H. D. Searles-Wood (F.) was appointed as the representative of the Royal Institute at the Congress of the Royal Sanitary Institute, to be held at Folkestone from June 20 to 25, 1921.

Apprenticeship in the Plumbing Trade.—Mr. H. D. Searles-Wood (F.) was appointed as the representative of the Royal Institute on the Committee dealing with the national scheme of apprenticeship in the plumbing trade.

Professional and Technical Civil Servants in Ireland.—A communication has been addressed to the Chief Secretary for Ireland urging the appointment of a representative of the Professional and Technical Division of the Irish Civil Service on the Civil Service Committee.

Royal Commission on Fire Losses.—A communication has been addressed to the Home Secretary urging the appointment of one or more architects on the Royal Commission that is to deal with the question of fire control, losses, etc.

Reading Society of Architects

At the first annual meeting of the Reading Society of Architects, held in the Chamber of Commerce Meeting Room, twenty-four members were present, including Mr. Chas. Steward Smith, in the chair, and Messrs. W. Galt Millar, W. Roland Howell, H. Whiteman Rising, E. P. Morgan, H. Goodman, H. Hutt, C. B. Willcocks, F. Sainsbury, H. E. Watkinson, A. Doo, S. E. Burrett, and H. Allen, etc.

The Chairman, addressing the meeting, said that this was the first annual meeting of the newly-formed Reading Society of Architects, and pointed out that already hey had thirty-five members, which was a very promising start. The Society hould be of considerable value to the profession, especially to the younger members, for whom competitions and visits to works in course of erection would be arranged. The formation of a Berks, Bucks, and Oxon Architectural Association was being considered.

Mr. H. Whiteman Rising gave an inteesting description of the library which is o be formed, and which should be very useful to the members of the Society. Mr. Rising said that it was proposed to form both a reference and a loan library of books on architecture, and that he would be glad to hear from all members who would lend or give books to the Society.

The Council for the coming year were elected as follows: President, Mr. Chas. Steward Smith, F.R.I.B.A.; vice-presidents, Messrs. W. Galt Millar, F.S.I.; and W. Roland Howell, F.R.I.B.A.; treasurer, Mr. J. H. Goodman; librarian, Mr. H. Whiteman Rising, F.R.I.B.A.; secretary, Mr. C. B. Willcocks, F.R.I.B.A.; members, Messrs. F. G. Sainsbury, M.S.A.; W. J. Freeman, A.R.I.B.A., and H. E. Watkinson, F.S.I.; Messrs. W. K. Morris, Licentiate R.I.B.A., and S. Cox, M.S.A., were elected honorary auditors. The following gentlemen were elected honorary members of the Society: The Mayor (Councillor Denys Egginton), Lieut.-Col. Leslie Wilson, M.P., Mr. Chas. E. Keyser, Rev. P. H. Ditchfield, Mr. Leonard Button, Dr. Jamieson B. Hurry, and Mr. H. H. Wallis.

Society of Architects

The following business has been transacted at a meeting of the Council of the Society of Architects:

Unification.—It was reported that a further meeting of the sub-committee would shortly be held to complete the draft proposals for amalgamation and federation for consideration by the main committee.

Purchase of Books.—It was decided to take advantage of the present rate of exchange to purchase a number of Italian architectural works for the Society's library.

Building Exhibition, 1921.—It was reported that the Joint Committee had met and formulated a preliminary programme for the approval of Mr. Greville Montgomery, and that the joint secretaries were engaged on elaborating the details.

Scale of Charges.—It was decided to approach the R.I.B.A. and the Surveyors' Institution with a view to joint action being taken to bring into line the scale of fees relating to the negotiations for purchase, there being a discrepancy between the surveyors' and the architects' scale.

Membership.—Thirty-nine applications were dealt with, of which seventeen were passed on for announcement. Two ex-members were reinstated, two resignations were accepted, and one death was recorded.

Professional Etiquette.—A case of an alleged infringement by a member of one of the Society's regulations was referred to a Committee of Inquiry.

Local Honorary Secretaries.—It was reported that the local secretaries were actively supporting the Society in its publicity propaganda, and that regulations for their guidance in these and other matters were under consideration.

Architects and Housing.—It was brought to the notice of the Council that a City member had made a public protest against a Corporation housing scheme being placed in the hands of an official, to the detriment of practising architects following the principle advocated by the Society.

Competitions.—The conditions of the Calcutta competition were received. Joint action with the R.I.B.A., taken with a view to amending the conditions, was reported in regard to a limited competition at Colwyn Bay.

R.I.B.A. Model Conditions for Housing Competitions.—The Council decided to approve the conditions subject to the deletion of Clause 11, which suggested that candidates should be guided by the Ministry of Health Manual.

Competition Regulations.—It was decided to take further action in pursuing the proposals of the secretary for a scheme of joint action to unify procedure in all architectural competitions.

Royal Academy Ateliers.—The Society's representative reported progress in regard to the proposal for a permanent *en loge* building, on which the patrons of the recognised Ateliers were preparing a report for the consultation of the R.A. Atelier Council.

Country Meetings.—The Council have adopted in principle a proposal to hold periodical meetings of the Society in other districts than London, and a further announcement is to be made in due course.

South African Branch.—The annual report of the branch for the year ended October, 1920, was received and adopted, and ordered to be incorporated in the Council's report for the same period.

Telephone Service.—On receipt of a notice from the P.M.G. to terminate the present agreement it was resolved to enter a strong protest against the new proposals as at present drafted.

R.S.I. Congress.—The Council accepted an invitation from the Royal Sanitary Institution for the Society to be officially represented at the Congress to be held at Folkestone in June next.

Annual Meetings.—At the annual meeting on January 13 the Council's annual report and balance-sheet were adopted, the auditors reappointed, and the outgoing officers and Council thanked for their services.

Manchester Society of Architects

Mr. John W. Simpson, P.R.I.B.A., was the chief guest at the annual dinner, which has been held at the Grand Hotel, of the Manchester Society of Architects.

Mr. A. W. Hennings, the Manchester President, said that in the future they must look to the R.I.B.A. as their leader and helper. Particularly was this so on the question of the registration of architects; they must help the Institute to secure for the profession the recognition it deserved.

Mr. Simpson, in reply, said there was a movement on foot to secure greater consolidation and unity, and a scheme to that end was in course of preparation. But in the remodelling nothing must be done which would in any way injure the standing or position of the Institute, or diminish the prestige or power of its allied societies.

On the other hand, decentralisation was rather to be aimed at—the complete autonomy of the provincial societies, subject only to the guidance in any policy by headquarters. The times were still unsettled, largely owing to the continued bureaucratic control of the Government. They submitted to it without grumbling during the war; but it was two and a half years since the armistice was made, yet the officials still maintained their strangle-hold of our industries. Architects were paying their out-of-works by means of taxes, and in return officials were destroying architects' livelihoods by unprofessional means. The moral of this was that they needed political influence, and they must so organise that they would ensure the return of their own professional members of Parliament, irrespective of party, charged to look after the interests of professional men.

Mr. T. Taliesin Rees, President of the Liverpool Society, also replying, said that the Institute had a very hard task to fight the department which was taking over housing, the care of ancient monuments, and some public buildings in connection with municipalities.

The Royal Institute of Architects of Ireland

The first meeting of the new Council has been held at Dublin, under the chairmanship of the President, Mr. Lucius O'Callaghan.

A considerable amount of correspondence was dealt with, including a letter from Sir L. Worthington Evans, stating that the views of the Council on the remuneration of official architects would receive careful consideration; from the R.I.B.A., in connection with the scale of premiums for public competitions; from the Ministry of Labour, referring to the Government's Training Grants scheme to ex-Service men; and from the Chief Secretary for Ireland with regard to the claim of the Institution of Professional and Technical Civil Servants for representation on the Civil Service Committee, and to the Council's representations thereon.

The Arts Committee were asked to consider and report on the proposal of the Dublin and South-Eastern Railway to allow the overhead bridges on that system to be used for advertising purposes. A letter from the Irish Homes Building Guild, Ltd., asking the Council's opinion on their form of contract, was referred to the Professional Practice Committee. The following committees, standing and special, were appointed: Professional Practice, Examination, Arts, Publication, Ancient and Historic Buildings, and Housing of the Working Classes. Messrs. R. M. Butler, F. Hayes, and P. J. Lynch were appointed to represent the Institute on the Joint Committee on Building Materials, and Messrs. F. Batchelor, R. H. Byrne, and W. Kaye-Parry on the Joint Committee on Irish Reconstruction.

On a scrutiny of the ballot the President declared that Mr. T. J. Byrne, A.R.I.B.A., of Dublin, had been elected a Fellow, and Mr. David Wright Boyd, Belfast, a member of the Institute. Further applications for membership were considered.

Royal Sanitary Institute

The sanitary officers' course of the Royal Sanitary Institute, which commences on February 7, comprises the subjects scheduled for the examinations of the Institute, and the Sanitary Inspectors' Examination Board. Inspections and demonstrations are also arranged and include visits to public and private works illustrative of sanitary practice and administration, with demonstrations of the routine of an inspector's office work and duties. The lecturers include Messrs. Alan E. Munby, M.A., F.R.I.B.A., W. C. Tyndale, O.B.E., M.Inst.C.E., Edward Willis, Assoc. M.Inst.C.E., F.S.I., H. C. Adams, M.Inst.C.E., and W. R. Hicks, Assoc. M.Inst.C.E. Full particulars of the course may be obtained from Mr. E. White Wallis, F.S.S., 90 Buckingham Palace Road, S.W.1.

Distinction for Bristol Architect

Mr. C. F. W. Dening, F.R.I.B.A., R.W.A., the popular Bristol architect, of whose work numerous examples have been illustrated from time to time in these pages, will receive general congratulations on his recent election as artists' chairman of the Royal West of England Academy in place of the late Mr. G. A. W. T. Armstrong, R.B.A., R.W.A. A clubbable man, Mr. Dening is a life member of the Bristol Savage Club—this compliment having been paid to him for his excellent work in designing the club's Wigwam and in restoring the Red Lodge.

Born in 1876 at Chard, Somerset, Mr. Dening was articled in 1896 to the late Mr. H. Dare Bryan, F.R.I.B.A., of Bristol. He started in practice with a fellow pupil about six years later, and was in partnership with Mr. E. G. Rodway, A.R.I.B.A., until 1918, since when he has practised on his own account. Mr. Rodway and he were very keen on competition work, and Mr. Dening confesses that he is just sending off his forty-fourth competitive design! One of his most notable achievements with Mr. Rodway was the winning of the competition for St. Alban's Church, Bristol, one of the largest modern churches in the city. Mr. Dening won the "Country Life" cottage competition, and was recently placed first in the Guildford War Memorial competition—the assessor in both instances having been Sir Edwin L. Lutyens, R.A. Mr. Dening acted as hon. secretary of the Bristol Society of Architects from 1912 to 1915, and during his term of office introduced Saturday afternoon sketching expeditions. Since 1913 he has held the office of Hon. Examining Secretary for Bristol on behalf of the R.I.B.A. He has been advisory architect to the City of Bristol Housing and Town-planning Committee since March, 1918, and, in conjunction with the City Engineer, Mr. Lessel S. McKenzie, is responsible for the eight lay-out plans for housing schemes around Bristol, embracing a total of 5,000 houses. Mr. Dening has made a special study of seventeenth—and eighteenth—century architecture, and he has an unrivalled knowledge of the domestic work of these periods in and around Bristol. Perhaps this accounts for the fact that his practice is chiefly domestic; but that he also has a flair for the monumental is attested by his fine design, on the commission of Sir T. J. Lennard, for Municipal Buildings and a Victory Memorial Tower on College Green. He has lately completed a cenotaph at Shepton Mallet. Mr. Dening is a devotee of brush and palette, and spends all his spare time in sketching in oils and water colours.

MR. C. F. W. DENING, F.R.I.B.A., R.W.A.

(Recently elected Artists' Chairman of the Royal West of England Academy.)

The Week's News

Proposed New Theatre for Colchester.

A proposal is afoot to erect a new theatre at Colchester.

Conway Housing Progress.

On the Llandudno Junction site 189 houses are being erected, and on the Gyffin site forty.

Newburn Housing Sites.

The U.D.C. have decided to purchase sites at Throckley and Lemington upon which to erect houses.

Proposed Liversedge Parish Hall.

A proposal is afoot to provide a parish hall and church institute for Liversedge at a cost of about £3,000.

Falmouth Housing.

The scheme of the T.C. provides for the erection of ninety-four houses, forty-four of which are nearing completion.

Housing at Sutton-in-Ashfield.

The housing scheme of the Sutton-in-Ashfield Corporation on the Hardwick Lane estate has been commenced.

Progress of New County Hall.

About 200 rooms, with corresponding length of corridor, in the London County Hall are approaching completion.

Housing at St. Faith.

The U.D.C. are applying to the Ministry of Health for sanction to a loan of £38,000 for the erection of houses.

Axminster Housing.

Application is being made by the U.D.C. to the Public Works Loan Commissioners for £10,000 for housing.

Housing at Selby.

The Housing Commissioner has authorised the U.D.C. to enter into contracts for the erection of 100 houses.

Housing at Nottingham.

Out of the 712 houses commenced at Nottingham eighty-six are occupied, 198 are nearly completed, and 327 are roofed.

Kidsgrove Housing.

Two pairs of newly erected dwellings have been opened. The scheme of the U.D.C. provides for 500 parlour-type houses built in pairs.

Worcester Sewerage Scheme.

Worcester C.C. propose constructing a sewerage scheme for Bromyard and Astwood Roads at a cost of £3,268. In the former area 122 municipal houses are to be built.

New Bridge for China.

A new bridge, 2,800 metres long, comprising fifty through spans and fifty two-deck spans, is to be constructed over the Yellow River for the railway administration of China.

Housing at Brighton.

Four hundred and twenty-five houses are to be erected on the Queen's Park site, Brighton, in accordance with the lay-out plans of Professor S. D. Adshead, M.A., F.R.I.B.A.

Housing at Rugby.

The U.D.C. are protesting against the decision of the Ministry of Health to reduce the number of houses to be built under the supervision of the Office of Works from 332 to 236.

A West End Site.

The Westminster City Council and the City of Westminster Union are about to let for building purposes the site of the Poland Street Workhouse, which has an area of 47,880 ft., with frontages to two streets, and is placed a little north of Piccadilly Circus, within two hundred yards of Regent Street and Oxford Street.

Lowestoft Hotel as Sanatorium.

The Empire Hotel, Lowestoft, has been bought by the Metropolitan Asylums Board for use as a tuberculosis hospital. The Ministry of Health has sanctioned the payment of a capital grant of £10,000 on account of the cost.

A.A. New Members.

The following new members were elected at the last ordinary general meeting of the Architectural Association: Messrs. M. L. Anderson, H. C. Hughes, Walter M. Epps, Oliver Bracket, J. Shepard, jun., S. H. Lawrence, Regnar Wied, and Edgar Ranger.

Radlett Sewerage.

Watford R.D.C. have decided to construct their new sewage disposal works and pumping main, and the sanction of the Ministry of Health has been obtained to the loan. The scheme has been prepared by Messrs. W. H. Radford and Son, of Nottingham.

Spalding Housing Progress.

Of the seventy-two houses arranged to be built, twelve have been completed, eight will be completed shortly, twenty others are on the way, eight have the foundations in, and in ten others the foundations and other work have been completed, which leaves fourteen yet to be started.

Skegness Improvements.

The U.D.C. have decided to make up Richmond Road at a total cost of £3,640. £20,000 is being borrowed from the Public Works Loan Commissioners for housing, and application is being made for a further £20,000. Seventy-five of the proposed 102 new houses have been commenced.

London's New Bridges.

A Bill has been deposited by the Corporation of London in which power is sought to borrow further sums of money for the reconstruction of Southwark Bridge and the construction of a new bridge across the Thames between Blackfriars and Southwark Bridges. It is proposed to borrow £3,050,000 instead of £2,250,000, as authorised in 1911, for the construction of these two bridges.

The Guild Method of Building.

Dr. Addison has stated to a deputation from the London Guild of Builders and the Manchester Building Guild that the twenty housing schemes originally arranged to be carried out by Guilds were to be completed on the existing contract forms without alteration. It was also announced that if the Guilds were successful in a reasonable number of housing schemes then the existing embargo would be completely removed, subject to an approved form of contract being arranged.

Land for Wandsworth Housing.

Mr. Howard Martin, Official Arbitrator under the Acquisition of Land (Assessment of Compensation) Act, 1919, has issued his award in a claim by the trustees of the late Sir Charles Seely, Bart., against the Minister of Health in respect of the compulsory acquisition of nearly forty-three acres of freehold building land on the Furzedown Estate, Wandsworth, S.W., for housing purposes. The trustees are Sir Charles Hilton Seely, Bart., General the Right Hon. John Bernard Seely, and Mr. Albert Edward Fowle Jourdain. The award is in the following terms: "That the acquiring authority is to pay the claimants the sum of £30,908, and I order both parties to pay their own costs." At the hearing of the claim, Mr. A. L. Ryde, of Westminster, surveyor, on behalf of the claimants, submitted a valuation amounting to £53,157. On behalf of the Minister of Health, Mr. F. E. Sargant, district valuer of the Inland Revenue, submitted a valuation of £24,264.

Enquiries Answered

Ellesworth Coal, Oil, Gas Burner.

J. O. writes: "Can you tell me the name of the patentees or manufacturers of the 'Ellesworth Coal, Oil, Gas Burner,' an apparatus for fitting to an existing coal-burning kitchen range?"

—We can find no information about this burner. Perhaps a reader can oblige.

Removing Cement Splashes from Bricks.

H. C. writes: "What is a good method of removing splashes of cement from the face of bricks so as to leave the colour clear and true?"

—The best method to remove the splashes of cement from the face of the bricks is to "grit" them off by carefully rubbing down with hard York stone or carborundum. If care is taken to ensure that the skin of the brick is not injured this method will leave the colour clear and true. If the bricks are very hard and non-porous then the result can be attained by means of washing down with a weak solution of hydrochloric acid washed off immediately with warm water; but this method is not advised, because if any of the acid is absorbed by the brick the surface will be damaged. W. S. B.

Finishing Floors.

T. H. W. writes: "Why is it necessary to size a floor before polishing, and can polish be used without sizing? What firm makes a good floor paint?"

—It is necessary to size floors before polishing in order to prevent suction, which would cause the polish, etc., to dry out in patches. The best way is not to use ordinary animal size, but to use a thin coat of shellac. Better still, however, to use a floor paint. There is an excellent one on the market called "Kewato," made by the Indestructible Paint Co., King's House, King Street, E.C. It is important not to size wood when this is used, as it is specially made for surfaces of a porous character. It is therefore equally serviceable on floor and on cement work.

Decorating a Stucco Front.

H. C. writes: "How can I decorate a stucco front to obtain a brickwork effect?"

—One method adopted by the West End decorator is to paint the whole front in dull black, i.e., without gloss, and then paint in the joints at the proper distance apart, in white. The transomes of the windows could be finished in white, and the quoins in grey with white chamfers. There are, of course, many other methods which might be adopted; for example, instead of black for a background, one might have venetian or indian red; the joints to represent the brick work would then be painted in either white or yellow. It should be added that if black is used for the main surface it is best obtained by using Portland cement mixed with lamp or mineral black, and a little glue instead of the usual flat paint, which is not durable when used outside. A. S. J.

Trade and Craft

Economical Stains for Internal Woodwork.

In these days of abnormally high prices for building and decorative work of all kinds, any material that promises economy in use or in cost deserves careful investigation; when, in addition to being economical in both senses, such a material also satisfies the requirements of durability and appearance, it has greatly enhanced claims upon the consideration of architects. The rare combination of qualities and characteristics set forth in the above paragraph is, on the evidence of users, to be found in the preparations known as "Judex-Carbolin"—a stain and a dressing for the treatment of interior woodwork. By the use of these preparations it is claimed that painting estimates may be reduced by at least 50 per cent.

"Carbolin" is a hygienic preservative stain, obtainable in any colour. Applied to woodwork, it intensifies the grain and natural makings, and provides a germ—and decay—resisting surface. "Judex" is a final dressing that imparts a permanent lustre to "Carbolin"-treated surfaces. To the outward excellence of this combined treatment we are able to testify after a careful examination of three samples of raw, unseasoned Swedish redwood, treated with one coat of "Carbolin" and one application of "Judex" dressing. The stains in these instances represent three shades of oak—"antique," "medium," and "light"—the colours being pleasant to the eye and remarkably even in quality; while the dressing imparts a permanent gloss that is appreciably heightened with light rubbing.

With regard to economy of cost, the testimony of Mr. R. G. Roberts, A.R.I.B.A., Housing Architect to the City and County of Newcastle-upon-Tyne, is of peculiar interest. Writing to the proprietors of "Judex-Carbolin" with regard to an experimental application of those materials to a four-roomed house on the Walker Housing Estate, Mr. Roberts says:

"My clerk of works has checked the time and material expended on this work with the following result: Time, one journeyman painter 44½ hr., one gallon 'Carbolin,' ½ gallon 'Judex." The quantity of work covered is approximately as follows: 107 yd. super flat surfaces, 20 yd. super windows, 136 ft. 1 in. picture mould, 217 ft. 1 in. 2 by 1 skirting.'

These figures speak eloquently for themselves. Architects who desire to test the merits of these excellent materials should communicate with Messrs. Judge Brand Co., Ltd., Gateshead.

Waterproofing the Chelsea Arts Club.

In conjunction with Mr. W. R. Manning, assistant borough engineer of Chelsea, Building Products, Ltd., have given a demonstration at the Chelsea Arts Club of the application of their surface waterproofer, Prufitol, by a new type of spraying machine. The demonstration showed the penetrative properties of Prufitol and the rapid manner in which it could be applied by means of the Universal spraying machine. The effect of Prufitol when applied to a brick surface is that it is absorbed, and the pores of the bricks are lined with a substance claimed by the manufacturers to be repellant to water. It is also claimed that Prufitol does not fill the pores of the bricks, and in consequence the air will continue to pass freely through the wall; and that it also prevents and arrests decay in stonework and stone steps.

Prufitol was not placed upon the market until it had been subjected to severe practical tests. In the summer of 1914 a house standing exposed on the North Welsh coast suffered considerably from the effects of the heavy moisture brought by the westerly sea gales; so much so, that during the winter months it was impossible to keep a paper on the upper rooms, and the plaster became a mere paste. Since Prufitol was applied, it is stated that there has been no further trouble in this direction, and the good effects have lasted up to the present time.

When Prufitol is applied with an ordinary brush it requires a lot of work to get it into the surface, and under these conditions it is calculated that the first coat will cover approximately twenty-five yards super per gallon, while the second coat will cover about forty yards super. When, however, Prufitol is applied by the Universal spraying machine there is no wastage of the material, a much larger area can be covered with one gallon.

Calendar.

The Cement Marketing Company, Ltd., of 8 Lloyds Avenue, E.C.3, have sent us one of their wall calendars, which, having very boldly printed daily tear-off slips, is specially suitable for large offices. This company is the selling and distributing organisation of the Associated Portland Cement Manufacturers, Ltd., Martin Earle and Co., Ltd., the British Portland Cement Manufacturers, Ltd., and the Wouldham Cement Company, Ltd.

Competition Awards

Burton-on-Trent High School.

The following awards have been made by the assessor, Mr. Herbert T. Buckland, F.R.I.B.A., in the competition for a new high school for girls at Burton-on-Trent: First prize (250 guineas), Messrs. W. and T. R. Milburn, FF.R.I.B.A., Sunderland. Second prize (150 guineas), Messrs. Rees and Holt, Liverpool. Third prize (100 guineas), Mr. Edward T. Allcock, Loughborough. Seventy-six deigns were submitted.

Llandudno War Memorial.

Fifty-six designs were submitted in the Llandudno War Memorial Competition, and the assessor, Mr. G. A. Humphreys, F.R.I.B.A., has awarded first place to that of Mr. S. Colwyn Foulkes, A.R.I.B.A., of Colwyn Bay. The design of Mr. Howell Scott Davies, of Small Heath, has been placed second, and that of Mr. Frank E. Littler, A.R.I.B.A., of Nottingham, third.

Competitions Open

The Guards' Memorial.

Sir Thomas Brock, R.A., and Sir Reginald Blomfield, R.A., have been nominated as assessors for the Guards' Memorial by the Council of the Royal Academy, and invitations to submit designs for a memorial to be erected on the west side of the Horse Guards' Parade have been sent to a limited number of sculptors.

R.E. Memorial, Chatham.

War Memorial. Assessor, Sir Reginald Blomfield, R.A. Premiums £200, £125, and £75. Apply, Secretary, R.E. Memorial Sub-Committee, R.E. Institute, Chatham. Closing date March 17.

East Ham General Hospital.

General Hospital in Shrewsbury Road to cost £40,000. Assessor, Mr. George Hubbard, F.S.A., F.R.I.B.A. Author of winning design will be appointed architect. Premiums of second and third designs £75 and £50 respectively. Apply, Mr. Ernest Richardson, "Montfitchet," 296 Katherine Road, Forest Gate, E7. Closing date, February 25.

The Salary of the Architect's Assistant

A member of the A.S.A.P.U. has sent us the following article with regard to the need for higher salaries in the architectural and building industries:

"The aim of the salariat of the building industry should be to organise itself for service. This service will be national and international, for the two kinds cannot long remain apart.

"What is one of the first steps towards this organisation? A scale of salaries. Architects already have their scale of fees. Why should not those who help them have their scale of salaries?

"There is no reason against; but many reasons for it. First, it is false economy to think that the salariat of the building industry can serve the nation well by receiving a low salary. An underpaid salariat is a danger to the State, and never fully efficient. As Ruskin pointed out, the real wealth of a country lies in its bright-eyed, happy young people; yet how can an underpaid salariat give birth to children? In spite of the fact that the low salaries have driven clever young students out of the building industry, and in spite of our snobbish lack of solidarity, this salariat is among the most intelligent of the brain workers, and it is the very class from which the nation needs offspring. Nevertheless, this class cannot afford marriage and children. The salary of a draughtsman is in very many cases below that of a metropolitan policeman—and the policeman gets a pension. A higher salary for this class, then, would get for the nation real wealth in the sense of the word as used by Ruskin.

"Secondly, architecture is notoriously the most stagnant of all the arts in this age of imitation. Why? Partly because the low salaries do not attract the cleverest and most artistic young men. Give higher salaries and you get better men. It is true that many young architects escape the sad conditions of an assistant by starting practice very early in life, and often before they are fully experienced. The art suffers. A higher salary for assistants would tend to keep them in the learning stage longer, and again the art would benefit.

"Thirdly, when one section of the community receives insufficient salaries for the needs of life, it means that the rest of the nation are exploiting that section. Each section of the community should receive a just return for its services.

"These three reasons are put forward then. We need a higher salary for the sake of (1) the nation's wealth, in Ruskin's sense of the word; (2) for the sake of efficiency in the building industry; (3) for the sake of justice."

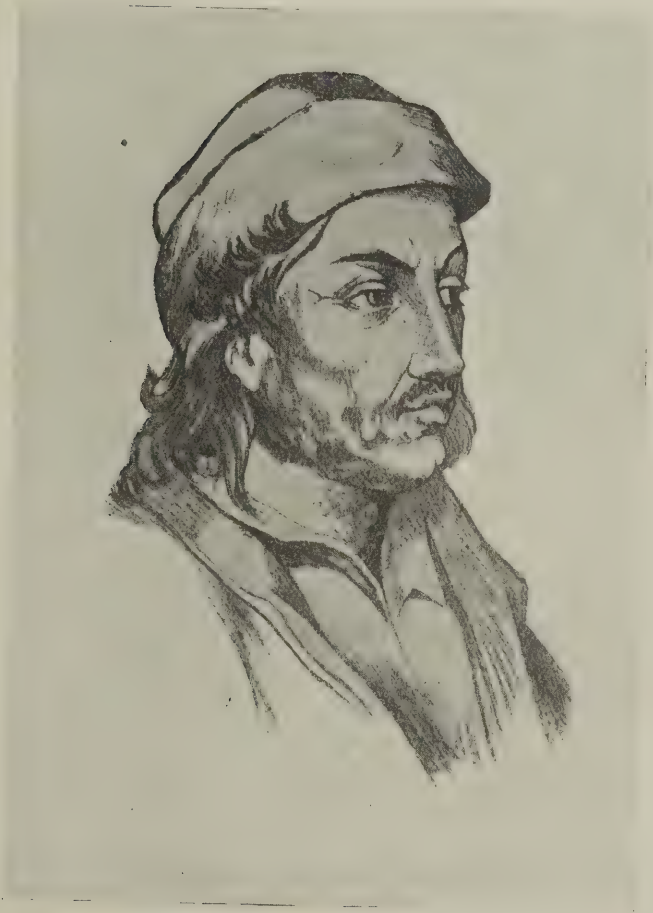
In this connection the A.S.A.P.U. have decided to hold at Caxton Hall at 6.15 p.m. on February 3 a demonstration in support of the union's minimum wage proposals, which will be published for the first time then.

Wednesday, February 9, 1921

Volume LIII. No. 1362

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

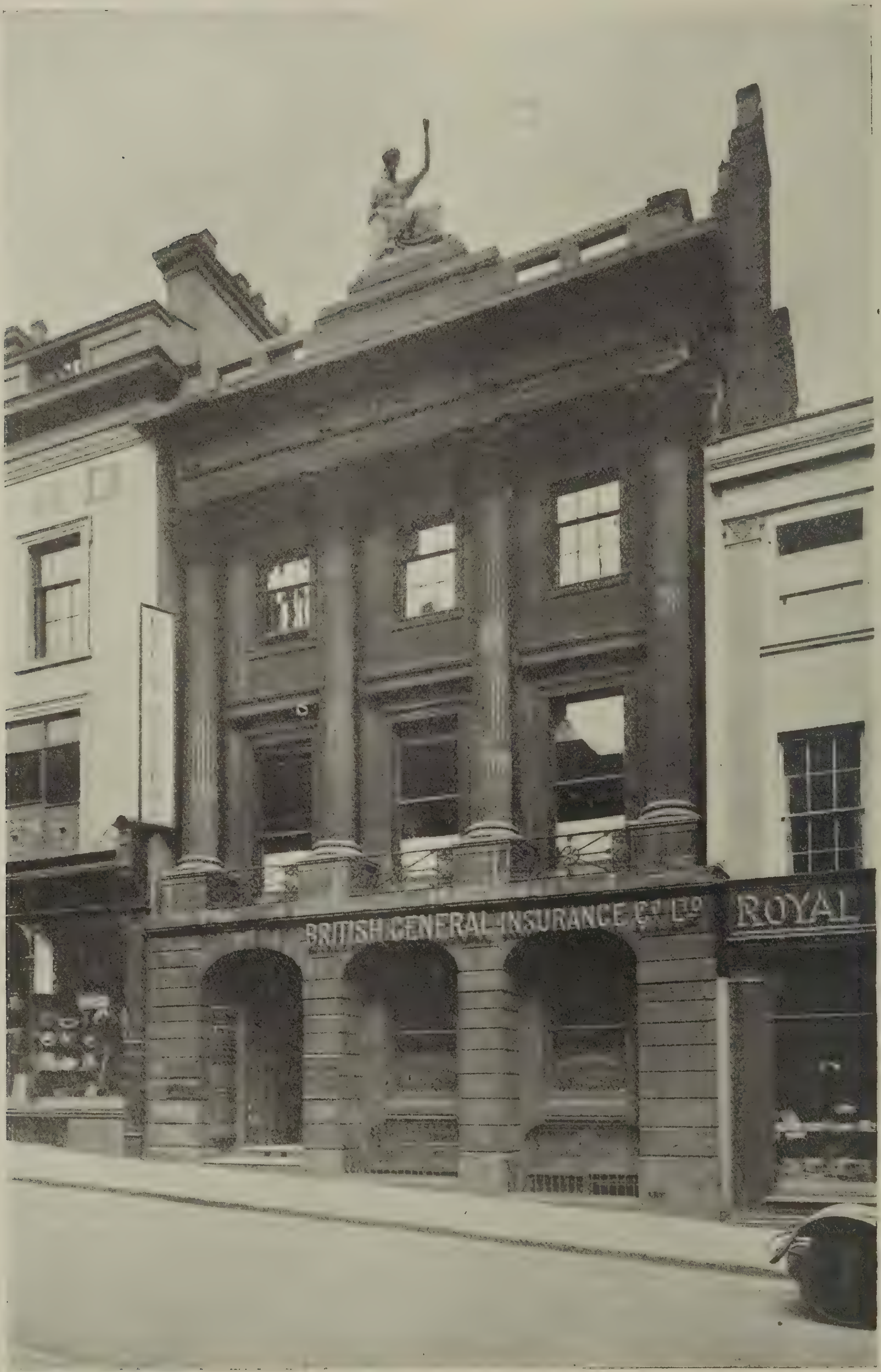


Antonio da San Gallo (d. 1534) was brother of Giuliano Giamberti (that being the original name of this famous family of artists and architects). Visiting Rome, Antonio ingratiated himself with Alexander VI., for whom he converted Hadrian's Mausoleum into a fortress. The Duke of Valentino employed him to erect the Fortress of Civita Castellana and afterwards that of Montefiascone. He also erected several churches, that of the Madonna at Montepulciano being considered his best.

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth-Century Architecture. 14.—Premises of the British General Insurance Company, Birmingham

Rickman, Architect



A dignified example of street architecture, and one of the few existing buildings belonging to the early days of the city's development during last century. Rickman was also the architect of the old Society of Artists' Building, in New Street, now demolished.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, February 9, 1921

Volume LIII. No. 1362

Notes and Comments

The Defeat of Dilution

It was announced last Friday that the Government's scheme for the dilution of the building trade by the admission and training of fifty thousand ex-Service men had been very heavily defeated in the men's ballot. Three hundred and ten thousand votes were recorded against the scheme, and only two thousand five hundred in favour of it. This closes the negotiations. As a matter of sentiment, the admission of the fifty thousand ex-Service men would have been extremely gratifying to all concerned; but before blaming the operatives as "heartless" and selfish, due consideration should be given to the men's point of view. In the first place, it must not be overlooked that the great majority of the operatives are themselves ex-Service men, and that in face of this fact it would be rash to assume want of sympathy with comrades who have the misfortune to be out of work; but the operatives hold that the hard case of these men is the concern of the Government, and should be met by more statesmanlike measures than crude dumping of dilutees on the building trade, in which there are already, according to the secretary of the Operatives' Federation, sixty-four thousand persons unemployed. If this figure can be proved—if it is really the fact that the Government is trying to bring fifty thousand men into an industry in which unemployment is already so extensive, it is as impossible to absolve the Government from blame for tactless blundering as it is to condemn the operatives for the utter want of heart of which they have been so freely and, for the most part, so ignorantly and thoughtlessly accused. All the statesmen who have taken a hand in this attempt to dilute the industry—the Prime Minister himself, Sir Robert Horne, Dr. Addison, and, lastly, Dr. Macnamara—have failed signally to convince the men that dilution was a duty; and the weak-kneed policy of yielding now to the employers and now to the men—to the latter of whom they held out extravagant promises for which the former promptly reduced them to hasty repentance—has from the outset travelled headlong in a bee-line for the abject failure which is signalised by the operatives' overwhelming nayword. If Government were wise, it would want no second hint to take its incompetent hands off the industry. To set it entirely free to manage its own affairs and to work out its own destiny is the only way to get from it in full measure the important services it alone can render the community; housing included.

The Royal Gold Medallist

The R.I.B.A. seem to have acquired a very happy knack of hitting upon exactly the right man to recommend for the Royal Gold Medal. This year the choice falls inevitably, and almost automatically, on Sir Edwin Landseer Lutyens, R.A., F.S.A., F.R.I.B.A. Not that he would have been begrudged it a decade ago, when his achievements in architecture, and the personal esteem in which he was held by the Profession, would have fully justified his selection for the honour that is most coveted by architects. Ten years ago, however, he was generally regarded as being too young in years, though certainly not too immature in accomplishment, to receive an honour of a kind that is commonly reserved for veterans. At fifty-two, Sir Edwin, with his abounding vitality and unfailing high spirits, is still so ebullient as to convey the impression that ten years ago he might well have been accused of unfading youth. Now that he has outgrown this fault and got the Medal, he is more vigorous than ever. His industry has been so prodigious that a mere list of his architectural works is of a length too formidable for recapitulation here. It includes, first in order of importance though latest in point of time, the town-planning of the new Delhi, and the designing of Government buildings there; the British School at Rome; the British section of the Fine Art Exhibition at Rome, and that at the Paris Exhibition of 1900; the Art Gallery and Rand Regiments Memorial at Johannesburg; the church (of very distinctive design) of St. Jude in the Hampstead Garden Suburb; and a vast amount of stately domestic work, including Marsh Court, Stockbridge; New Place, Shedfield, Botley; and the dignified residence for Mr. McKenna in Westminster. Sir Edwin is the only living architect who has been accorded applause and fame by the general public, who recognise in him the author of the Cenotaph. On that account, he will be the most popular of all Royal Gold Medallists. Medals that he has already received include a Gold Medal from the Paris Exhibition of 1900, and a medal from the 1911 Fine Art Exhibition at Rome. As versatile as he is industrious, he has not only designed buildings of very various types, but has also achieved much success in garden design; and his many-sidedness is further signalised by his membership of clubs so diverse in character as the Athenæum and the Arts, to say nothing of the Burlington Fine Arts.

The Cost of London County Hall

At last week's meeting of the London County Council, the Chairman of the Establishment Committee stated that the estimated total expenditure for the complete County Hall scheme is about £4,344,000, exclusive of furniture. This colossal sum does not seem to have shocked the public as it would have done before the war made us familiar with thinking in millions. When the original estimate of about a million and three-quarters was announced, loud was the outcry against this "wicked extravagance." Fear of what the mean-minded would say and do had unduly postponed the project for years, and when at length the scheme was put forward, its opponents refused to swallow the unpalatable truth that further delay would inevitably involve increased cost. The "Little Londoners" retorted that they did not want the building at all or at any price. This was mere foolishness, as excessive meanness always must be. Londoners may be sufficiently unenlightened to go on doing without a university building, but they really could not afford to dispense with a County Hall, whether it be regarded as an impressive and incidentally a symbol of the greatness and dignity of the Empire's capital, or merely as a means of unifying the various departments of the Council, and thereby effecting a considerable saving on rents. Certainly the expenditure of about four millions and a half on a single building seems extravagant; but if the false economists rage against it let them be reminded that the responsibility for it rests with them or with persons of the same short-sighted outlook. If those publicists who were quick to feel the need for a County Hall and to perceive the absurdity of the County Council's having no home of its own, but having to submit to the indignity of living in lodgings, whereas "even the most insignificant of the borough councils has its town hall—if those enlightened burgesses had not been persistently and systematically thwarted and daunted and reviled by persons of inferior civic ideals (or of none at all), the scheme for London County Hall would have been formulated and accepted years before that object was actually attained, and the building would have been finished before the war began. In that case its costs would have been barely one-third of that now estimated. Having effected this brilliant stroke of economy, these anti-waste enthusiasts may be confidently expected to try hard to atone for their loss of three millions or so on the fabric by saving twopence-halfpenny on decoration and equipment. Every possible means must be used to suppress the parsimony that would ruin a four-million-pound building by giving it a tenth-rate finish. False economy is waste in its most insidious form.

Furniture and Decoration

When in these columns we were deprecating the "Period" tyranny, almost simultaneously Mr. Percy A. Wells, of Shoreditch, was preaching pretty much the same doctrine to the Architectural Association, in his excellent after-dinner paper on "Modern Furniture Design and Decoration." To what we have already said on the subject it may be added quite consistently that we see no reason to disagree entirely or at all with Mr. Wells's contention that "apart from reproductions, this slavish following of styles, and the study of styles, had led to a great improvement." Eliminating the invidious word "slavish," it is possible to assent without hesitation to the main proposition, which we take to mean that following old and approved forms is wholesome discipline in observation, and a fruitful exercise in hand and eye training. The further it departs from traditional models, the less likely is design to be free from eccentricity and vulgarity. Hence the duty of preserving fine specimens of craftsmanship in the museums, where they may be seen and studied by all. In a large institution like the Victoria and Albert Museum, the environment rather overawes a modest student, but in a small local museum like the Geffrye, in the Kingsland Road, Shoreditch, where the London County Council has in safe keeping many objects of architectural interest, the most timid of young craftsmen is made to feel himself at home and at ease. Much excellent furniture is among the exhibits here; and as Shoreditch is a very busy centre of the furniture-making industry, the value of facilities for studying exemplary specimens of the craftsmanship of earlier centuries can hardly be exaggerated. Much turns, however, on the spirit in which the models are regarded. If they are approached with the object of "slavish" imitation, as Mr. Wells puts it, then they may have the effect of sterilising the originality and invention that they should foster and stimulate. Always the young craftsmen should be shown and encouraged in the right way of regarding the models that are held up to their admiration. In other words, museums afford the worker almost his only means of examining and comparing approved specimens of good work, by which process he comes in time to discriminate instinctively between good and bad design.

Competitive Bricklaying.

Is the plumber played out As a butt for Press and Public, the bricklayer is rapidly superseding him. Even "Punch" condescends to throw bricks at the wielder of the trowel, and constant charges of lack of diligence—assertions that a man who should lay a thousand bricks in a day is idly content to fix but a poor three hundred—have at length reached the stage of cartel and challenge. A certain councillor (not the one who rewarded Jack Point with a sausage) is reported to have bettered (or worsened) this commonplace accusation by stating that bricklayers employed by the Eltham Housing Works Committee are laying only three hundred bricks per man per day, while the councillor's own men are each and severally laying one thousand five hundred. The Committee deny the truth of the charge. Their men, they say, are laying a thousand a day, and the Committee challenge the councillor to a six-a-side bricklaying match between his men and theirs. This more than Homeric challenge (for indeed there is nothing like it in Homer) has stirred the "Daily Chronicle" to its depths. It has actually devoted a leading article to the subject, saying, "That is in the right spirit. If such competitions were held in every town in England and became as popular as football, the men getting into training during working hours, we should be on the way to solving the housing problem, and should not worry if the building trades asked for higher wages. Meantime,'' it is added, "we are told that in the erection of dwellings at Chiswick the ex-Service men employed are carrying on their job in the spirit of the battlefield.' It is only in that spirit that the peace can be won, that production can increase, and the condition of the working-classes be improved." No doubt there is in all this a grain or two of truth amidst the chaff. We have never supported the dead-set against the bricklayer. Nevertheless, we are sure that the bricklayer, like most other workers, is suffering somewhat from after-the-war slackness; and competitions might serve a good purpose if they aroused him from the lethargy into which he is alleged to have sunk. Possibly they might put him on his mettle as to number or quantity; but what of quality? Scamped bricklaying is dear at any price.

Popular Lectures on Architecture

We are glad to print (page 152) the second of the series of lectures arranged by the Manchester architects' and builders' organisations, to be delivered at the Victoria University. The lecturer on this occasion—Mr. W. G. Newton—enforces the example in civic pride set us by the Romans in building nobly, and all who heard his lecture must have gone out into the dingy streets of Manchester to face humiliation at the strong contrast between most of the buildings there to be seen and those that Mr. Newton had so vividly described as expressing the character of the citizens of Rome. Mr. Newton was indubitably justified in driving home his point without remorse: "We shall hurry past the commercial buildings of the nineteenth century, and see the long grey vista crowned by the local gasworks.'' This is not complimentary; but the case must always be put candidly and vividly if converts are to be made, and we feel that, in lectures of which the main object is to open the eyes of the public to a sense of the beauty and value of good architecture, and of the duties of citizenship involved in the case it is first necessary to awaken penitence. This series of lectures has been admirably conceived, and Mr. Paul Waterhouse and Mr. W. G. Newton have both entered into the spirit of it with a clear perception of how to do the right thing in the right way. They have shown a splendid lead in a field in which followers should not be lacking; for it would be most unfortunate if the future of architecture were controlled by an unenlightened public.

R.I.B.A. Presidential Address to Students*

By JOHN W. SIMPSON, P.R.I.B.A., Membre Corr. de l'Institut de France

"The Invention of young Men is more lively than that of old: And Imaginations stream into their Minds better, and, as it were, more divinely."—Bacon.

THE address which I have the privilege of delivering to-night is directed—by long custom of the Royal Institute—to students of architecture, upon the occasion of presenting to them the prizes they have won by meritorious performance. Highly as I esteem and appreciate this privilege, it implies, as I view it, one of the greatest of the many responsible duties laid upon your President. Himself a student—for we architects must ever be learning, storing the little cistern of our capacity with drops of knowledge wrung from work and experience—it falls to him to advise, encourage, and help his younger fellow-students. The task is both difficult and delicate. Architectural students are critical folk, whose training teaches them to require the best of workmanship and material, to detect and reject those of inferior quality. They are not to be fobbed off with second-hand mental wares, nor propitiated by faded posies culled from the garden of art, where the choicest flowers are common property.

There exists, I suppose, in the mind of every man who has lived, loved, read, and observed in reason and variety, the equivalent of that spare drawer wherein we keep discarded trifles, in a mulish belief that they will at some time be needed again. The little key of which the lock has disappeared, disparate fragments of wood and metal fittings, burnt-out pipes powerfully fragrant of former happy days, miscellanea which "it's a pity to throw away." Ladies, I am told, are free from this agreeable weakness, and if a hat, for example, has seen its day, will scrap it ruthlessly, as Americans do machinery. A man would wear it till it fell to pieces, and then secrete it, with the idea that it might "come in useful for something else."

"A Fresh Side to the Obvious"

Turning over, therefore, the half-forgotten contents of my memory in search of a fitting subject for this discourse, I found, without surprise, much to set aside as unworthy for presentation: many items sadly incomplete, some out-of-date, others a bit rusty, and unfit for use without refurbishing. But I came upon an incident of which my friend Barry Pain once told me. "For some years," he said, "I wrote a sketch-story of about a thousand words every week for an illustrated paper—work which should have been easy enough. One day, however, I began to worry. I wondered what I should do if one week I found that I had got nothing—that I had come to the bottom of the bag. I wasted a whole morning in this silly way; then I saw what an idiot I was, and wrote a story about an author who did come to the bottom of the bag." The story conveyed the moral for me that it does for every creative artist—"There is always a fresh side to the obvious." Why, thought I, should I sift out matter for an address to students from a heap of book-knowledge, when I have been for forty years in the active practice of their profession, and have learned things they cannot find in books. "Nos te nos facimus Fortuna deam," it is we ourselves who make Fortune a goddess, quotes Samuel Butler; and shrewdly observes that this is only true after Fortune has made us able to make her so. The poet says nothing as to the making of "nos." There was no need to look further for my theme.

I saw myself, not in 1881 when I was taken into partnership by an older man—continuing my work at the Royal Academy Schools in the evening—but, some three years later, when that arrangement terminated. A lifebelt is a useful contrivance, but it hampers the movements of a swimmer. Being both hopeful and shortsighted, I had cast mine away, and was now in deep water; to be more exact, in a tiny office of my own, with no very clear prospects and a rental liability about my neck of some twenty pounds a year. Here I spread out some papers and drawings to suggest pressure of business, and hung perspective views upon the wall—mendacious indications of vast experience in the erection of buildings.

The Architect's Office

I digress for a moment on the subject of the architect's office—that, at any rate, in which you receive your patrons. Like everything else you create, it will be, in some sort, a portrait of yourself. See that it be a pleasing one. For the most part it resembles a second-rate solicitor involved in building speculations. Your office should have its distinctive atmosphere, congenial to a cultured client; I would hardly commend perspective views for decorative purposes, or even for advertisement. Hang rather a few fine photographs of the great buildings of all time which he can discuss with interest; little of your own work, and that carefully selected of your very best. If you bear this in mind the latter will be pretty frequently changed. We have many lady-students now, how many I do not know; a young gentleman of whom I sought information replied, "Oh, crowds." By reason of their sex they must needs possess that most valuable attribute of the architect, "a tidy mind"; and when their influence begins to be felt we may hope to find an improvement in our surroundings.

To revert to my own installation. Its arrangement was of no great importance, for no one called to see me but friends as impecunious as myself, who filled the room with smoke, heedless of the possible visit of a fastidious client. The postman was infrequent—I often regret that time—and the circular he brought was perused with grateful interest. I consoled myself with the reflection of the great Dr. Morin, "Those who come to see me, do me honour; those who stay away, do me a favour."

Those entering upon the practice of our profession have one great, one unique advantage. While in other callings even those with talent, assiduity, and other qualities which should command success, may have to await for years an occasion for their employment, the architect's opportunity is available at once. He can always keep his equipment bright by constant use, for most of the great prizes of his profession are thrown open to competition by all. He has, from the outset, the chance of showing what he can do; success depends, with unusual directness, upon his technical ability; and the capital demanded for his enterprise is represented by a few sheets of drawing-paper and some wooden strainers. To this opening I naturally turned my attention, and was rewarded with success; it was not long before I had plenty of work.

As a very old hand, both as competitor and assessor, I now venture a few words of advice concerning competitions. As a means of practical education, the study of a given subject, not for mere academic exercise, but, for the purposes of a building to be actually erected at a definite cost under the responsible supervision of the designer, is invaluable; provided that it be followed (in the case of non-success) by its honest comparison with the winning design in order to find the cause of failure. When evolving a design bear in your mind that a mere solution of the problem offered will not suffice; a competitor must never rest until satisfied that his solution is absolutely the best that can be found; that there is, so far as he can see, no way of simplifying or improving it. A single shortcoming may be the only difference between the first placed and the second. And should you seem at a standfast, in despair of new ideas, continue drawing nevertheless; there is no surer way of evoking them. However reluctant be the Muse, she must yield at last, for the persistence of her suitors is her own inspiration. I add one caution. Keep your design always in your thoughts while it is proceeding; unconscious cerebration produces astonishing results. But, once it is finished and packed, dismiss it wholly from your mind; no amount of further worry will help you, unless you can exert telepathic control over the assessor.

---

* Read before the R.I.B.A. on Monday, January 31.

Most competitions are for public buildings; for these, simplicity of plan is essential, so that strangers may easily apprehend it, and find their way about the building without embarrassment. The working of the human mind, however, inclines to ingenious and complex solutions in the early phases of thought. Mistrust these; concentrate upon and disentangle them, until your plan appears so obvious an arrangement that you wonder why any one should dispose it otherwise. This kind cometh not out but by prayer and fasting, the ruthless rejection of everything that ingeniously evades instead of clearly meeting the issue. Half the difficulties of design arise from your mind being obsessed by some pet architectural feature, around which it is, perhaps quite unconsciously, trying to build up the whole conception. Try cutting out that tower, dome, chimney, or whatever it be that you value so highly; the chances are that the entire composition will then rearrange itself spontaneously, like the glasses of a shaken kaleidoscope. Lose no opportunity of getting a fresh eye to criticise your work. Show it to your friends (unless they be co-rivals) and see their work also; this will, incidentally, enable you to follow Dr. Johnson's advice and "keep your friendships always in repair."

Competition Waste

It is disheartening to reflect on the labour wasted in nearly all competitions by the preparation of designs which do not comply with the conditions. This arises from looseness in reading and analysis, a defect so serious in the mind of an architect as to be almost a disqualification for the calling. Conditions should be read, not once nor twice, but continually as your design proceeds; every point being tested by reference to the text, in which "Answers to Questions" should be inserted at the proper places. I would add that if "conditions" are properly drawn, but few "questions" should be needed. Numerous questions indicate a slovenly assessor.

In most cases competitors are required to estimate the cost of their design by stating its contents in cubic feet, and the rate per foot cube at which they value it. It is well to bear in mind that these figures will be checked by the assessor, and that under-statements in either respect may influence him adversely. It is quite useless to "cook" an estimate by pricing a portion of a building at what would be a fair flat rate over the whole, and taking the remainder at a lower figure. Nor does it impress an assessor favourably to find, as in one case I recall, that a competitor has treated a large central hall as being a "void," contained between the surrounding blocks, and merely add a small sum to represent its roofing and floor. Such a method of calculation, it is true, reduces the apparent cube, but it also lessens materially the author's prospect of success. It has been my own practice, in drawing the conditions for recent competitions, to settle the rate to be allowed per cubic foot. It seems to me a better guide to what is wanted than a limited total sum, which cannot be accurately determined until the building is designed; and it removes the temptation to competitors to price at impossible rates.

Estimates and descriptive reports are, too often hastily concocted at the last minute. They should, on the contrary, be prepared very carefully *pari passu* with the drawings; the cube being calculated at every stage in order to control extravagance in plan and section. The description and estimate offer occasion to indicate an author's clear-headedness and methodical character, just as much as the drawings show his artistic qualities.

At one time—the fashion is now infrequent—a competitor's chances were thought to be improved by showing "alternative treatments" of portions of his design by means of hinged "riders"; the idea being, apparently, that if the foolish assessor avoided Charybdis, he should at least come to grief on Scylla. I have, indeed, known three different riders successively superposed upon a plan, which, as you may suppose, offered no more than a choice of evils. I cannot too strongly discourage such a practice. It should not be the aim of a competitor to set riddles to the assessor, but to convince him that the design before him is the best. How can its author hope to convey such a conviction when he himself is manifestly in doubt?

Judging Competitions

Now, a word as to the final stage, the judging, of a competition. Attempts are often made to estimate the length of an assessor's foot; and the guesses are generally wildly wrong. It may help you to win competitions of which I am assessor if I tell you something of my own methods.

First of all, I make a cursory survey of all the designs, and determine a system of marking. Next—with the conditions before me—I examine them *seriatim*, and make a sketch of each plan, for I find that this gives me better insight of the author's meaning than I obtain from mere notes, and is very convenient for reference; it also shows me at once if staircases are impracticable, walls unsupported, or construction defective. I then read the reports, and give a first marking to every design. Having thus made myself generally familiar with the work submitted, I eliminate those sets which are plainly inferior, and re-mark the remainder, adding or deducting marks as necessary. The reason for this second marking is that, in the course of examining a large number of drawings for the first time, one is apt to vary the standard of values; a good design coming after a poor one is likely to be over marked, and *vice versa*.

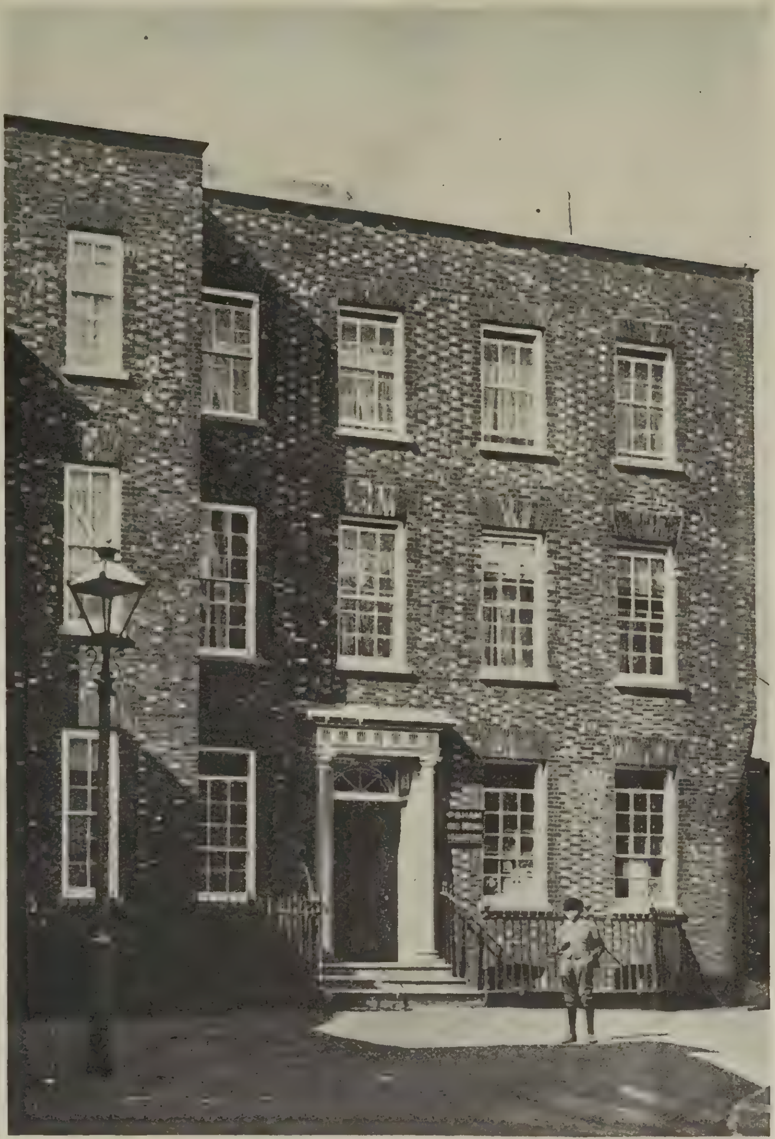
After the second marking the best designs stand out clearly above the mass. These are taken up for searching analysis, their reports again read, and the cubic calculations and estimates checked and tabulated. As a general rule there is little doubt about which design is to be placed first; those for second and third, still more for third and fourth places, often demand most anxious consideration of their relative merits.

The enterprise of competition is of inestimable value to those beginning their career; I speak of that great majority in whose mouths no good fairy has placed a silver spoon when they were born. It is the cleanest kind of fighting in the inevitable struggle for a livelihood. No back-stairs influence, no hateful cultivation of acquaintances with an eye upon their pocket-values, avail to increase your prospect of success in such contests.

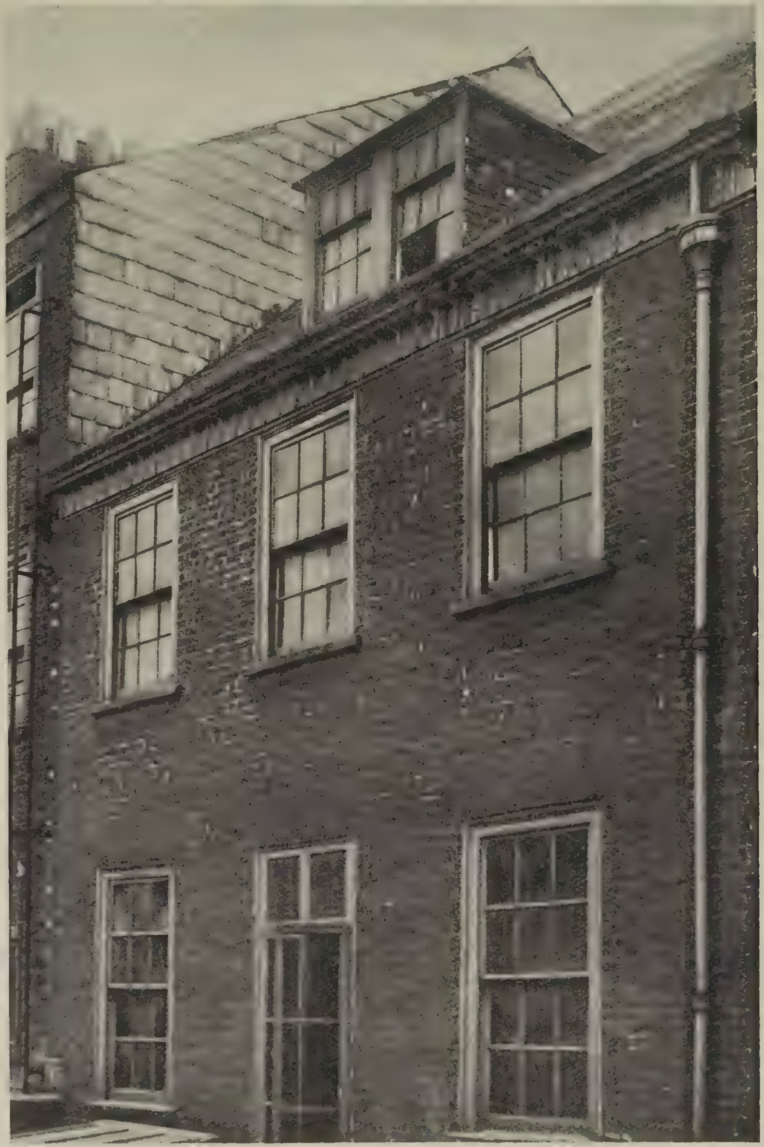
Above all, competition inures you to the divine habit of work. "Work—and dreams; high hopes for the future. There is nothing better than that combination." Glory be to work! When trouble and distress befall—as certainly they will—it is to work that you shall turn as to a familiar, consoling friend. It shall bring you oblivion of pain, and peaceful good sleep fitting you to face your sorrows. The curse of Adam concealed the greatest blessing mankind has ever known.

A vote of thanks was proposed by Sir L. Amherst Selby-Bigge, and seconded by Lady Banister Fletcher (this being the first occasion upon which a lady has spoken officially at a meeting of the Institute).

Architecture of the late Eighteenth Century. II. Two Devonshire Examples



House at Topsham.



Brick House, George Street, Plymouth

Both these small houses date from about 1790-95. The Topsham example is typical of the late Georgian domestic manner of North-East Devon. In the case of the house at Plymouth, the persistence of the outside window frame at so late a period is remarkable.

Architectural Causerie: Eighteenth-Century Fireplaces

I HAVE been so often solicited by various readers to record a few facts connected with the design of fireplaces that I have at last attempted the task. This week the theme is the eighteenth-century fireplace, with certain deductions which should be of use to those undertaking the repair of old buildings, where it is essential to retain historical features, and truths regarding the design or selection of fire-grates for new ones.

* * *

The courtesy of Mr. Alfred J. Wells has enabled me to quote from an old quarto, entitled "Fires Improv'd, being a New Method of building Chimneys so as to prevent their Smoaking," a book originally composed by a Frenchman, and made into English and Improved by one J. T. Desaguliers, M.A., F.R.S., in the year seventeen hundred and fifteen. History does not record whether the architects of those days made the fortune of J. Senex, at the sign of the Globe in Salisbury Court, for whom the book was printed; neither is there any information regarding the number sold from the shelves of E. Curel, at the Dial and Bible, against St. Dunstan's Church in Fleet Street.

* * *

The author opens his work with the following apology: "Such a Demand has been made for this Book since it was first Advertiz'd, that some Mistakes have been committed thro' hast; we must therefore beg of the Reader to correct the following." Here follows "Errata," and a curious Advertisement whereby two long-forgotten mechanics are again brought before the public.

"The best Workmen that I know for curing the Smoaking Chimneys, and performing what is directed in this Book, most effectively, and at the most reasonable Rates, are Henry Hathwell, Bricklayer; living over against the George Inn in Hedge-Lane, near Leicester-fields; and William Uream, who may also be heard of there: Having try'd them several times with good Success." Our author devotes his first chapter to "Fire, its Rays of Heat, and the way that we are warm'd by it," explaining that in common chimneys the fire gives little heat, sends forth few direct rays, and mostly goes up the chimney. In other words, the common way of building chimneys, with the jambs parallel and the breast inclined did not answer for reflecting heat into rooms.

Beyond question our author had in mind the vast spaces encouraged by Tudor and Jacobean designers for the reception of fires. It is also probable that he had heard of the smoky chimneys at Hampton Court. About this time John James, of Greenwich, together with other architects of the day, sought to improve matters by making the sides of the interior of the fireplaces circular, finishing the brickwork in plaster, which was lime-whitened. At a later date, about 1720, the practice of covering the internal jambs, with plate iron or brass crept in, and various other attempts were made to conserve heat essential for raising the temperature of rooms.

* * *

Such defects as those stated by our author and recounted above determined him to design a system for making the fire burn up. He accordingly advocated a vent hole, or bellows; in this is to be seen perhaps one of the earliest instances of introducing air beneath the hearth fire. Briefly, the first object aimed at by our author was to make the interior jambs of his fireplaces nearly parabolical, and then to contrive means for a vent hole to be added beneath the hearth proper.

* * *

Desaguliers, as became a Fellow of the Royal Society, made many experiments in his attempts to fathom the secret of the thermal unit. He had recourse to thermometers, he experimented with a gun-barrel laid horizontally in the fire, observing the effects of the heated air upon a small wax candle held at the upper end of the tube. This led to the theory of hollows behind each of the curved jambs of the fireplace and under the hearth, the idea being that if heat could be successfully retained in the fireplace greater radiation would ensue from the fireplace to the room. Our author, however, overlooked the fact that the position of a single fireplace, however well designed, cannot compete with heating evenly distributed throughout a room, but then he lived a century before Sir John Soane introduced central heating into his buildings.

* * *

Another device of Desaguliers, after devising extra radiation from the fireplace, allowed for introducing cold air from the outside of the room, first into the cavities where it would be warmed, and would in turn warm the room without increasing or diminishing the fire.

(To be continued.)

HOUSES AT BARRY GARDEN SUBURB, GLAMORGAN. T. ALWYN LLOYD, ARCHITECT, J. A. HALLAM, DEPUTY ARCHITECT

Imperial Building: The Lessons of Rome[*]

By W. G. NEWTON, M.A., (Oxon) M.C.

WE carry away from our schooldays a misleading and parochial idea of Rome. We read about patricians and plebeians, Marius and Sulla, the Gracchi and the Punic Wars, but hardly a word about the Empire. The historians of the nineteenth century were interested in party government and the Republican idea. They drew a veil over the Empire, as though it were something indecent. Moreover, the great writers whom we studied, Virgil and Livy, Cicero and Horace, came at the end of the Republican period, and their eyes are on the past. Troy town is almost more to them than Rome. Julius Cæsar, for them and for us, was the last of the Romans.

But he is rather the first. A glamour is cast on the Republican ages by the great names of Latin literature. But the small triumphs and homely virtues which they celebrate are a play in a country village. Now a vaster stage is set. Beginning with the generation when Christ was born, for three centuries and more Rome is the centre of a great system of civilisation stretching from the Cheviots to Egypt, from the Straits of Gibraltar to the Garden of Eden. For three centuries and more this quarter of the world, with the Mediterranean lying like a lake in the middle, with its roads forming a huge nervous system centering on the city of Rome—all these peoples who are now England and France and Spain, the Rhine Provinces, the Balkans, the Middle East, Egypt and the long north coast of Africa, lay in a profound peace. There were short internal wars over the Imperial succession, and a certain amount of frontier disturbance; but, speaking broadly, there has never been so long a period when so many different peoples have lived an ordered and tranquil life. It is as if there had been no wars in Europe and Asia since the Spanish Armada.

Growth of the Empire

Everywhere cities grew and flourished, built on similar plans, governed on similar lines. It has been calculated that there were more than two thousand of them. The couriers on the great roads could travel one hundred miles a day. A bulletin of news was issued daily, and read in public throughout the Empire. Everywhere the same types of building recur; the streets of Palmyra recall those of Milan; the traveller from Rome would find great bathing establishments in Paris or in Gloucestershire; the stretching aqueducts of the Campagna are echoed in Spain or North Africa. The known world was a great family.

The army, too, bore a great part in this unification. The Roman Empire was in its essence a military organism. And this does not mean so much that the supreme power came more and more to be the gift of the legions, true as that is, as that the whole civil administration, the whole system of meeting the demands of the world, whether for corn or for statuary, for clothes or for building, became gradually a great organisation run on similar lines to the organisation of the army. The legions are recruited locally. Great military camps grow into prosperous towns. The Roman soldier under the Empire is not a specialist, he is a settler. And he is ready to turn his hand to anything, to building an amphitheatre, working a silver mine, or adding temples, bridges, and aqueducts to the adornment of Egypt.

The Imperial Periods

It is useful to glance for a moment at the chief Imperial periods from Augustus to Constantine. There are four:

(1) The Julian Emperors, from Augustus (who came to the throne about the date the Virgin Mary was born) to Nero (who probably put St. Paul to death). During this period of ninety years Rome was largely rebuilt. Augustus left marble where he found brick. Nero took more advantage of the great fire of Rome than we took of the Great Fire of London, and rebuilt Rome with wider streets and more solid houses.

(2) The Flavian Emperors—Vespasian and his two sons, Titus and Domitian. They came from Syria, where Vespasian was in command, and with them came a wave of Orientalism affecting religion, manners, and architecture. To this period we owe the Colosseum and the Baths of Titus, much rebuilding and extension of Rome, and possibly the dome.

(3) Trajan, Hadrian, and the Antonines, ending with Marcus Aurelius (about 100-200 A.D.). A time of profound peace. City vied with city throughout the Empire in building colonnaded streets and aqueducts, temples, and amphitheatres, forums and baths. Trajan is praised by a writer of the time for the magnificence of his public works; Hadrian, wherever he went tramping at the head of his legions over the world, took with him a troop of architects, to add something to the splendour or convenience of the cities through which he passed. It is written of him: "In almost every city he erected some building." And we owe to his day the dome of the Pantheon, perhaps the most impressive and most Roman building in the world. This second century of our era was, in the opinion of the historian Gibbon, the happiest and most prosperous in the history of the world.

(4) By a singular irony of history, it is the son of Marcus Aurelius, the philosopher-Emperor, who breaks the charm, and is the first of a long line of rulers under whom, in the third century, discipline and administration are relaxed. An Asiatic priest, a Thracian peasant, an Arab, and a squireen occupy in turn the throne of the Cæsars; and the whole great centralised system begins to show signs of failure under the strain of internal disorder and the first shocks of barbarian inroad. There is no great builder, except Caracalla, till Diocletian at the end of the century: the son of Dalmatian slaves, he founded a new system of Government, dividing the Empire into four parts, each with its prince in command. In his reign were built baths and a great palace on the east shore of the Adriatic, where he retired, after reigning twenty years, to grow cabbages and study philosophy. He had paved the way for Constantine, who about thirty years later emphasised the final division of the Roman Empire by founding Constantinople and leaving Rome a provincial city, nursing a memory of greatness.

So much for the Emperors. What of the people who formed the mass of the system?

There were four classes—slaves, freedmen, and two classes of the free. All ancient civilisation rests on a basis of slavery. In the Roman Empire, which touched at every frontier less civilised and, at first, weaker peoples, there was no lack of slave labour. It was no uncommon thing for a great Roman to have four or five hundred slaves in his immediate household. They were often treated with great kindness, and would gradually hoard enough money to buy their freedom. Their employment was largely domestic, and we have no reason to think that they had much to do with building.

The freedmen were the most enterprising and wealthy class in the community. They were not ashamed, as the free-born citizen was, to engage in trade and speculation. They were not expected to spend on the same lavish scale as the free-born millionaire. They became permanent secretaries at the heads of the various branches of the Imperial civil service. Yet, important and wealthy as they were, the barriers of class distinction were such that they remained a despised class, looked down upon by the sorriest garlic-eating loafer who was free-born.

The free-born were sharply divided into patricians and plebeians. The former distinction, at first a question of lineage, became more and more confined to those who had held office (local mayors and the like) and their descendants. They had all the honours and a great deal of the wealth. But it was a social obligation, understood and accepted, that this wealth should be expended to glorify their own town, especially in building. The least important councillor or patron would signalise his election by building a temple or a bath-house.

The plebeians had the material advantage of all this generosity and of cheap corn. On the other hand, there was little opportunity for ambition, little chance of rising, except for a soldier, and the indolence and lack of careers bred a class of loungers. They were subject to certain obligations, such as conscription for labour purposes when required.

Builders of the Roman World

This was the background of the Roman world. Who did the building work?

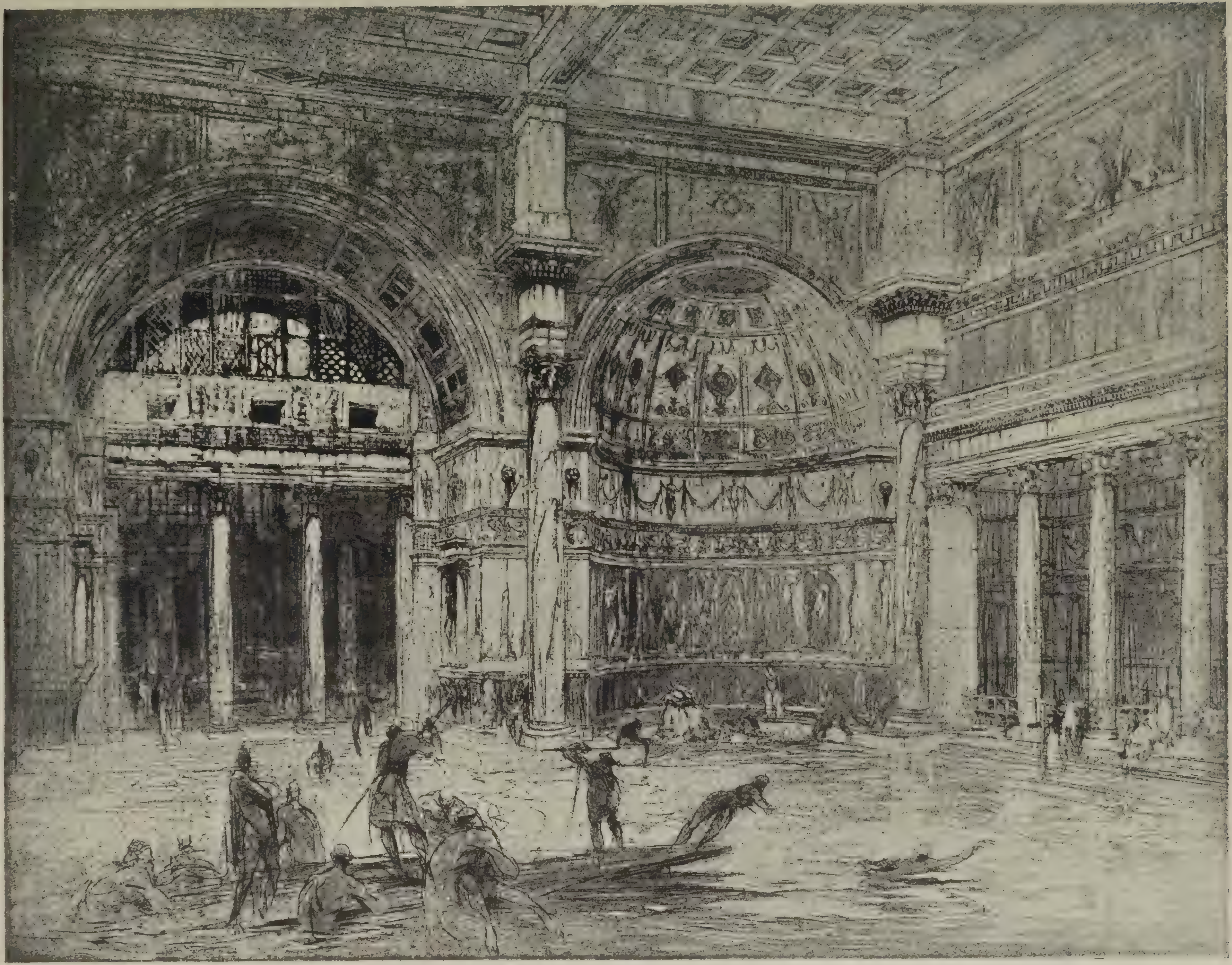
In the first place there were architects. We hear of them in the time of Augustus (the writer Vitruvius was one), in the time of Trajan, and Hadrian (who took numbers of architects with him on his marches), and Constantine (who gave orders for founding schools of architecture throughout the empire). Their functions, as we learn from Vitruvius, were much those of the present day. They designed the buildings, drawing plans and elevations and perspectives. They also did levelling and surveying, and looked after fortifications and artillery work, like the architects of the Italian Renaissance.

In the actual construction, in the case of large public buildings, when it was not the

---

[*] Extracts from a lecture at the Victoria University, Manchester, January 27, 1921.

The Frigidarium of the Baths of Caracalla. From an Etching by William Walcot



In this brilliant etching, Mr. William Walcot reconstructs the interior of the Baths of Caracalla and fills it with the life and movement of ancient Rome. (See Mr. W. G. Newton's paper on "Imperial Building" in this issue.)

work of the legions, we find a plain division into two classes, as is apparent both from documents and a study of remains: (1) The large mass of so-called unskilled labour available from the labour conscription. (2) Skilled tradesmen.

We all know that building in all its branches is a matter demanding very skilled co-operation. Yet we shall see when we get on to an analysis of Roman building methods that the Romans continued to make the largest possible use of unskilled labour. To supervise this and to do the more skilled work, such as the brick arches which reinforced the concrete vaults, and for masonry, carpentry, joinery, and decorative work, there was need of skilled men bred to the trades. To meet this need there grew up an interesting guild system, where men of a trade were combined together as a "corporation," in which membership was hereditary. The members were bound to give their labour on public buildings. In return the corporation was endowed with land, on the revenues of which the members lived.

In the case of private works, one member of a corporation might act as a contractor. He would tender for a fixed sum, and make use of his fellow-members, and perhaps hire slaves for less skilled work.

The Roman Empire was an empire of towns, and the great centres of this town life—open alike to the rich and poor, the provincial senator and the working mason—were the forums, with their colonnaded walks and shops, their crowded temples and courts of justice, and—more intimately—the baths. I think the great impulse to their use and development must have come, with the vault and dome, from the East. The Egyptian of Herodotus, the Mahommedan, and Indian of to-day are great ceremonial washers. Our mild survival of the Roman establishment is called a Turkish bath to-day. The peoples of the Roman Empire made more than a ceremony of it; they made it a delight. And not only did they bathe. The baths were a resort for sports and for literary discussions, and, above all, for the lounging and gossip which is the breath of life to Mediterranean man. Your Roman citizen is an inveterate corner-boy.

Let us gossip for a few minutes in the Baths of Caracalla.

From the noise and hurry of the streets we pass into a great garden enclosure, 400 yards each way. Within this stands the main building of the baths, which we enter through a door which leads into a colonnaded courtyard with a great semicircular open apse on one side. Here are crowds of young fellows skipping or running or practising boxing or playing at ball. In the shadow of the colonnade the latest poet is reciting his verses to a crowd politely interested. From a neighbouring hall comes the sound of applause as a lecture is ended. We pass on through a vaulted lobby, as large as the room we are now in, into the great enclosure where bathers are splashing in the cold pool under the sky, and thence into the vaulted hall of the Tepidarium, with its vistas every way into the sunshine, a hall as high as the nave of St. Paul's and nearly twice its width.

How is the great vault built? Lavish and ruthless their conception may be, but they are straitened by two necessary economies—skilled labour and timber. For heavy work they can impress the forced labour of multitudes; for their skilled supervision they must go to the limited corporations. And the Roman countryside, where the building methods first hardened into a tradition, is treeless. There is no timber to spare for vast systems of centering, which have to be struck when the work is finished.

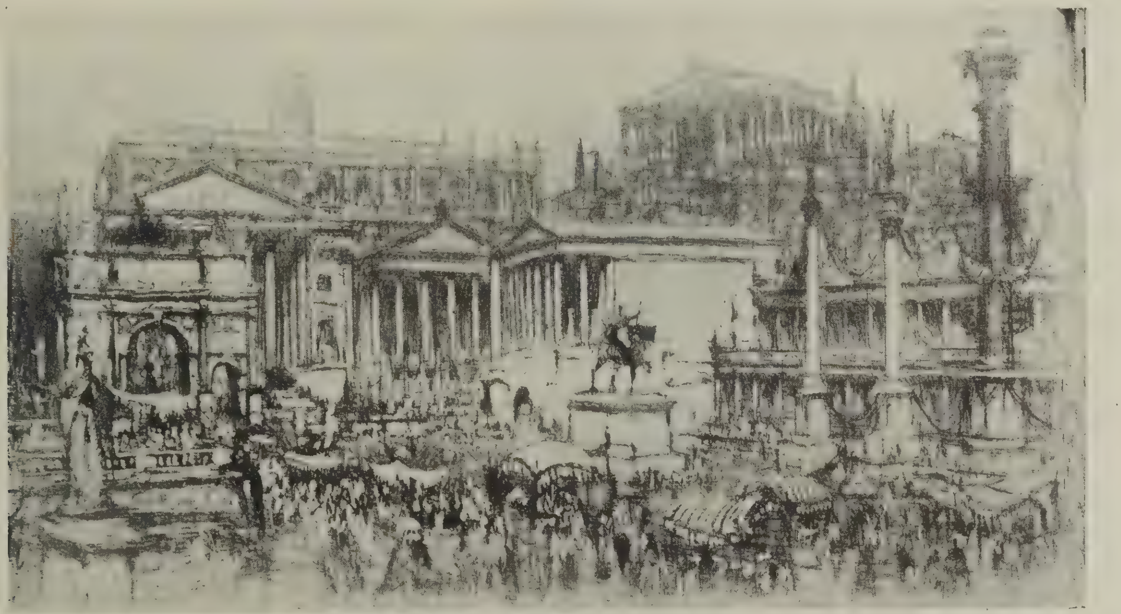
To take the second problem first. They hit on a method of building which, with the scantiest possible use of timber centering, enabled them to build a permanent centering of brick, which was never struck and remained for all time a part of the vault. A few principal trusses, and planks between, would enable them to build their light network of brick. And the centering would be shifted along the vault as required. Sometimes the network was not quite joined up. As a further economy, sometimes quite discontinuous double arches were built. Here there was evidently a tendency for the filling to drop out on the surface. So the next time they made a square or octagonal box and fixed it on the planking—whence comes the coffered vault.

Another cheap and simple way of making permanent centering was to use the 2 ft.-square flat bricks on edge, to form a sort of plated centering, upon which the mass of cement and stones was shovelled to complete the construction.

And now we come to the economy in skilled labour. The Romans were as well aware as we are that concrete mixing and laying is skilled work. So they didn't use concrete, but a system of alternate layers of cement and broken stone or pebbles, each layer thrown on with a shovel. The layering is clearly visible in remains of Roman work when examined. This was work which the unskilled pressed labourers could quickly learn and under supervision adequately perform.

In a few minutes we shall be turning our backs on the old Roman Empire, with its wealth of ordered cities, sunny colonnaded streets and vaulted baths, and all its intense civic ardour, to go out on to our own dreary pavements, 'mid a crowd of our own indifferent fellow-citizens; we shall hurry past the commercial buildings of the nineteenth century, and see the long grey vista crowned by the local gasworks. We must, I think, feel in this contrast of present and past that we have lost something of the fine instinct for order, something of the large simplicity of the Romans, which we do right to regret. With electricity for power and light, with steam and gas and steel and all the material resources of modern civilisation, what would not the Romans, with their enthusiasm for building and their developed sense of the town as a unity, have made of our great cities?

In this matter of the pleasantness of buildings, remember that the architect needs the co-operation of his fellow-citizens. In the mass he can only express what they want expressed. Architecture is, and cannot but be, the characteristic seal of its age—whether it be the blowsy good nature of the mid-Georgian or the



"ROMANS IN THE FORUM." (FROM AN ETCHING BY WILLIAM WALCOT.)

self-conscious mysticism of the mid-Victorian. The most original of us will in the end be bent to your will. What is your will?

I would pray you at least to think it worth while to be interested. Be all agog to see what is being done and where we are going. Be violent about mean streets and dingy railway stations, about ignoble building and planning as expressing ignoble thought, a contempt for fellow men. As you see a scaffolding going up, crowd round and ask, What are they doing to express in some way what I think and what a city should be—what I want my children to live with? Remember the old Greek saying that mean buildings make a mean people.

[Mr. Newton's scholarly and stimulating lecture was illustrated by a number of lantern slides of Roman etchings by Mr. William Walcot, to whose genius in recalling the spirit of the antique past Mr. Newton paid tribute in the opening sentence of his address. Two of these etchings are here reproduced by courteous permission of the artist.]

The Old Houses of Shrewsbury

Mr. H. E. Forrest gave an interesting lecture on "The Old Houses of Shrewsbury," before a recent meeting of the Birmingham Architectural Association, over which the president, Mr. H. T. Buckland, F.R.I.B.A., presided. Although not an architect, Mr. Forrest has made a long and careful study of the architecture of Shrewsbury. Few towns in England, perhaps, have more points of historical and archæological interest than Shrewsbury. Situated as it is on the borders of Wales, it had a stirring history in early times, and until about the reign of Edward I. war was frequently brought to its very gates.

The old houses, said the lecturer, divide themselves naturally into three groups, according to the materials used in their construction—stone, timber, and brick. Apart from the primitive wooden huts of the Britons and Saxons, the earliest houses were a few stone mansions dating mainly from Plantagenet times. Shropshire was rich in timber, especially oak, and in the fifteenth century, when houses began to be erected in numbers, the builders naturally adopted this as the most convenient material. The first timber frames were simple. They consisted of a row of vertical posts 9 in. wide and 9 in. apart, reaching from floor to floor. The spaces between the uprights or studs was filled in with flat pieces of lath wedged into grooves on either side, then clayed, and finished with plaster both inside and out. The Abbots House, in Butcher Row, is a fine example of this period, rendered all the more interesting by its perfect series of mediæval shops. Originally these were open booths, the shopkeeper sitting inside and the customer conversing with him from the street. The wide oaken sills on which the merchandise was displayed are still intact.

In Queen Elizabeth's reign the timber houses reached a very high state of perfection, many of them being lavishly ornamented. In Shrewsbury a sunken quatrefoil seems to have been the favourite design of one particular craftsman, as it is confined to the immediate vicinity, and appears on some eight or nine houses erected between 1570 and 1595—Owen's Mansion, in High Street, is a notable example. Timber houses continued to be erected as late as the reign of Charles II. The use of bricks was at first confined to the chimney stacks of timber houses, but about 1580 a few houses with brick walls were built in Shropshire—Condover Hall is a fine example. The earliest brick house built in Shrewsbury was Rowley's Mansion, in Hills Lane, which dates from 1681. The lecture was profusely illustrated with lantern slides.

Reading Society of Architects' First President

Mr. Chas. Steward Smith, F.R.I.B.A., who, as we announced in our last issue, has been elected first President of the Reading Society of Architects, is a native of Reading, and served his articles with his father, the late Mr. Charles Smith, becoming subsequently a partner in the firm of Charles Smith and Son. During his student days in London he was a member of the Architectural Association, and he studied also at South Kensington and in France, Belgium, and Holland.

Mr. Smith became an Associate of the Institute in 1882, passing the qualifying examination with distinction, and was awarded the Turner Silver Medal and Book Prize in Sanitary Science. He first exhibited a drawing at the Academy in 1881. In 1892 he was elected a Fellow of the Institute.

In association with Mr. Harry Hutt, A.R.I.B.A., he conducts a varied and extensive practice, having carried out a large amount of domestic, educational, and hospital buildings in various parts of the country. For some time he was an advisory architect to the Board of Agriculture, and he has acted as assessor in some important competitions.

Among the more recent of his firm's work may be mentioned buildings at University College, Reading; the New Gymnasium and Library, Wantage Hall, and other Halls of Residence for Students; New Science Schools at Bradfield College; Additions and Alterations to the Royal Berkshire Hospital; the Infectious Hospital at Reading, etc., etc.

Mr. Smith is a Justice of the Peace for the Borough of Reading, and takes a large share in local voluntary work; his son, Mr. Eric Steward Smith, who is now with the firm, represents the third generation in the architectural profession.

MR. CHARLES STEWARD SMITH, F.R.I.B.A.
FIRST PRESIDENT OF THE READING SOCIETY OF ARCHITECTS.

The R.I.B.A. Competition Designs*

By H. P. BURKE DOWNING, F.R.I.B.A.

THE Godwin Bursary for the study of modern architecture abroad has awarded to the single competitor (Mr. C. B. Pearson) for a collection of drawings showing that he has done much good work in the practice of his profession since he obtained a Medal of Merit in the Tite Competition of 1906.

There were also only two entries for the Essay Prize (not awarded) and only one entry for the Grissell Gold Medal (also not awarded). For the Institute Silver Medal for measured drawings there were four competitors, and for the Tite Prize eleven.

Some general impressions are necessarily borne in upon one in examining the exhibition of works as a whole. In bulk it is a small exhibition as compared with other years, and, recalling the exhibitions of twenty or twenty-five years ago, I observe very clearly the increasing influence of the architectural schools. If from this influence there is some danger of restraint of individuality, the schools have undoubtedly brought about a raising of the general level of work; there is less inequality of performance—very little absolutely poor work—and for this all praise is due to the schools. Nevertheless one misses, especially in the draughtsmanship, a certain freedom of individual method which was a product of the times before the academic influence had become so strong. It is significant that there are no drawings of Mediæval work in the exhibition. This is not, however, to suggest that there is not excellent draughtsmanship. There is—even when it is joined with design marked by absence of inspiration—but it is not of the order that plainly exhibits qualities or character rather than the training of the draughtsman.

While drawing is obviously taught so well and with such excellent results in the schools, it is a little unexpected that one should find so few students desirous of competing for the only prize offered for construction, a subject not less necessary nor, one would have said, less suitable to engage the attention of the schools. It may be that it is not so easy to draw out enthusiasm for this branch of the complex art of architecture, but excellence of draughtsmanship can be no substitute for knowledge of construction—true design cannot proceed from the one without the other, and it is very necessary that equal means and opportunity should be afforded in the schools for the study of both.

The "Grissell"

The Grissell Gold Medal is the unique competition in a constructional subject, and unhappily it has not been possible for the prize to be awarded, although the sole competitor ("The Villain") sent in a good set of drawings. The subject set was a kinema, and the competitor's design is of quiet and appropriate character and the practical requirements of the plan are well considered. It has, however, been fatal to his aspirations that his structural diagrams are (I am informed, for I do not attempt independently to criticise the steel-work details) inaccurate. I think he deserves some credit for attempting a subject which, perhaps, would not be inspiring to many of us. That is not necessarily so with construction. I recall very keen competition inspired in former years by such subjects as the construction of "a timber spire" or "a bay of a vaulted church." But the mastery of the constructional problem, though it be met in more prosaic surroundings, should be in itself of no less absorbing interest. With modern needs and modern methods it is in fact daily more necessary that students should be taught to master structural mechanics and not to regard such matters as a branch of their art for which they can rely upon the engineer. The mastery of construction is necessary to design.

The Essay Medal

In a second competition also—that for the Essay Medal—no award is made, although there are two competitors. I think that, as seems to be the case with many competitors for this prize from year to year, "Egypt" and "Lucem spero" rather fail to appreciate what is wanted. An essay of this character is not intended to be in the form of materials for a book. It should be complete in itself and fully develop, while it illustrates, some thesis; it needs to lead up to some conclusion which (as is expressed in the conditions of the competition) will make a useful contribution to knowledge and constitute an authoritative statement on the subjects dealt with. "Egypt" could hardly expect to be authoritative on the whole history of Egyptian architecture, more especially as he adopts creation as a necessary starting point. He has diligently extracted a number of facts which should help him to the understanding of any discovery he may hereafter make, but the reader must derive for himself, if he can, any contribution to knowledge of the subject. "Lucem spero" has chosen a technical subject—"Domes, their Construction in Theory and Practice"—and has, indeed, put a great deal of work into it, but it is rather the groundwork upon which he might have formulated some authoritative statement as a contribution to the knowledge of the subject. Both essayists are too closely tied to the material which they have collected from their reading.

Measured Drawings Medal

There are only four entries, but the competition is close, each competitor having produced what is a valuable record of some building of Classic or Renaissance architecture, and the work is good and conscientious. But many of the drawings suffer from a rather mechanical and laborious manner; survey notes and plottings are involved and do not evidence sufficient care nor a very intelligent appreciation of the subjects. We expect to find fine draughtsmanship in these studies, and it should express the character of the buildings and be the outcome of the student's enthusiasm for and sympathy with his subject.

That there should be a marked falling off in the study, by drawing and measurement, of old work is much to be regretted, and for a revival of enthusiasm I would commend to the attention of students especially our English traditional work, little as it may now be in fashion.

The medal this year goes to Mr. J. H. Odom ("Ajax") for a survey of King Charles's Block of Greenwich Hospital. His drawings form a very complete and interesting record of a fine building. They are accurate and painstaking, but they seem to me to be deficient in the quality of sympathy.

Mr. Leckenby ("Sapper"), who receives honourable mention for his fine monograph of the "Temple of Bacchus at Baalbec," presses the winner very closely. The drawings are most beautiful and were completed on the spot, clean, well-arranged on the sheets, and the lettering is excellent. As records the fact that they are in pencil is a drawback. The rendering of full sizes and carving shows much feeling and a marvellous delicacy. The subject is a purely classic one, and comparatively small, and it is unfortunate that Mr. Leckenby was not able to produce his plottings.

"Ralph Allen" submits a capable set of shaded drawings of the well-known eighteenth-century mansion of Prior's Park, Bath. He gives especially good drawings of the interior, but the plottings and survey notes are inadequate and scarcely show that he has explored all the qualities of the building.

The drawings of "St. Mary Woolnoth," by "Triangle," are a little unequal and blemished by somewhat careless lettering, but present a complete and reliable record of Nicholas Hawksmoor's fine church, whose "doom," we may hope, is not yet finally pronounced.

The "Tite"

For the Tite Prize the subject is a design for an Italian Villa inspired by Pliny's description in a letter to Gallus, not to be regarded as an archæological exercise but as an inspiration for a building on similar lines. This most happily chosen subject has proved in truth an inspiration of good work and designs of great merit and exceptional interest, while the winning design has hardly been surpassed in brilliant imagination and scholarly rendering in this competition for many years. So beautifully indeed is the description of the place, its arrangements and surroundings, given by Pliny, that even to a layman a picture is presented which he seems to realise with certainty: perhaps, indeed, its realisation seems more easy to the layman than to the architect who has to attempt it and finds very soon the gaps which must be filled by his own imagination, notwithstanding the apparent completeness of every detail. The subject was one to emphasise the importance of the competitors most carefully weighing the whole of the instructions given them with a view to seizing and holding the main idea of the scheme. Everything is described in language of modesty and restraint which, while it rules out grandiose treatment, perhaps in some measure conceals the fact that the house which is being described is that of no commonplace citizen but the chosen home of a statesman in literary retreat. It is revealed at every turn that it is the ideal of a man of the most refined taste and elegant learning.

The schemes of some of the competitors are of too ambitious a character; showing, indeed, a great deal of zeal and painstaking industry, but evidence of recourse to text-books and not enough of individuality and power of design. A free combination and adaptation of Italian Renaissance work has been favoured. In drawing, the work is generally good, but suffers from dulness, and is sometimes spoiled by laborious and not always well-applied spraying and grounding, which does not help. These drawings clearly come mainly from one School, but hardly do justice to the school. Though Academic they are immature.

---

* Extracts from a review read before the R.I.B.A.

It is not necessary for me to make observations in detail on all the designs.

The design of the winner of the competition, Mr. Gordon Holt, will by universal consent be proclaimed the finest piece of work of the year, and sufficient of itself to make the year a notable one, had it stood alone. It is clear that he has felt to the full the inspiration of Pliny's description; the seed has fallen upon prepared ground. He takes us right back to the first century, in which Pliny was writing, and gives us a Roman Villa even more complete with all its adjuncts than Pliny's description extends to. The situation of his Villa might be precisely that which Pliny saw when writing—above the cliffs of a sunny sea coast and overlooking a small pleasure harbour, down to which flights of steps lead from the terrace on the sea front.

On the land side the lay-out of the gardens in the grand manner, with the clear and direct approaches, gives a fine effect of spaciousness and dignity which does not need to assert itself, and this characterises the whole conception. Mr. Holt has adopted the style of the earlier Pompeiian houses, which was much influenced by Greek feeling, and the long low lines of his buildings give a character of unpretending dignity to which higher and more elaborate structures do not attain.

The Græco-Egyptian detail and decoration have been well studied. It is harmonious, if the colouring seems a little too strongly applied for small scale drawings.

The greatness of this design is in the conception of the whole, which is, moreover, worked out with a completeness which would make criticism of the details a work of much longer time than I should dare to occupy on this occasion. I prefer to express my admiration of the whole and of every part. Closely as Mr. Holt has followed the description of Pliny's letter he has not allowed himself merely to be instructed by it. It has served as an inspiration, but the conception is his own and marked by his own personality. He must have lived in the work, as it has grown under his hands, and he has enabled us to enter into the enjoyment which his task has clearly afforded him.

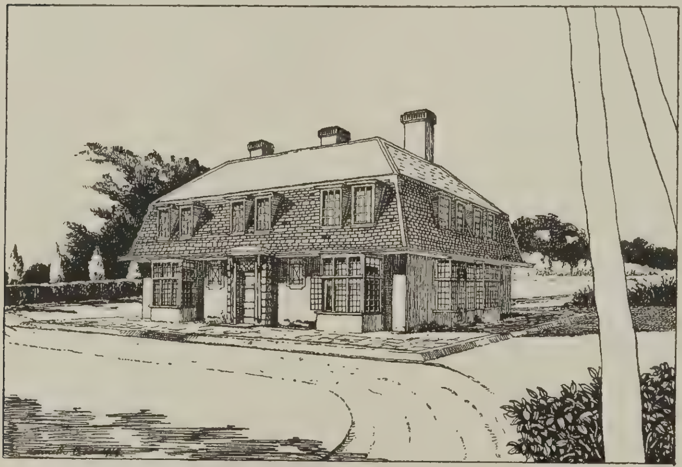
The plans give a sense of absolute reality, carried out even in the delineation of the galleys in the harbour and the chariots in the stables. By singular good fortune we have this evening an opportunity of viewing side by side Mr. Holt's ideal conception and Mr. Bradshaw's beautiful drawings of his archæological reconstruction of Praeneste—near to which, by the way, it is recorded that the younger Pliny had a Villa.

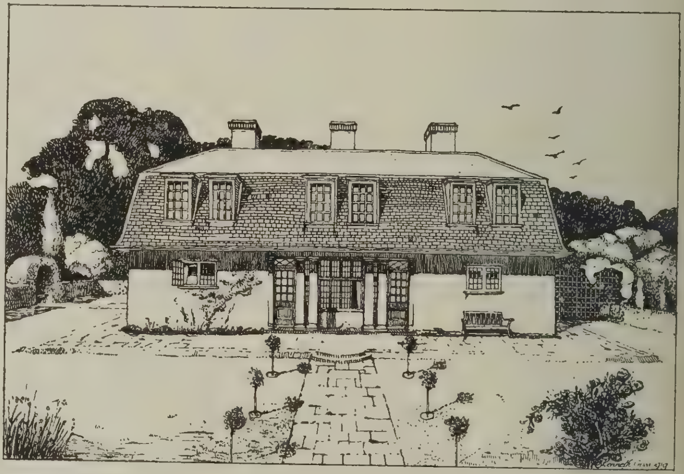
I cannot bring my observations to a close without drawing attention to the great artistic ability shown in Mr. Holt's drawings. They are executed in the manner of the School of the Architectural Association, and a high tribute is due to the unsurpassed training of the School of the Association, for which I and so many of those here present must ever retain a loyal affection.

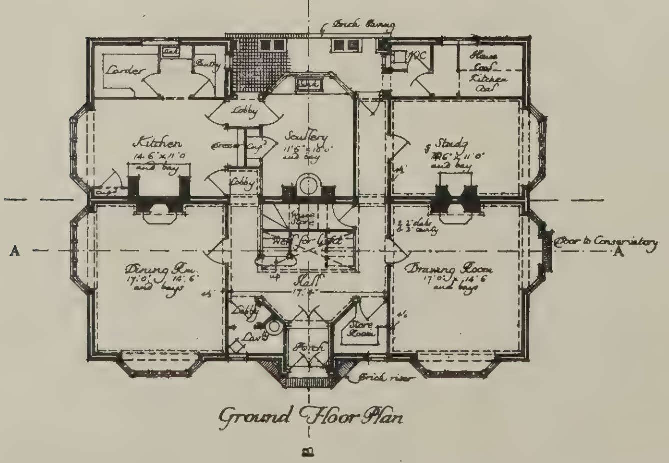
House at Cheam, Surrey

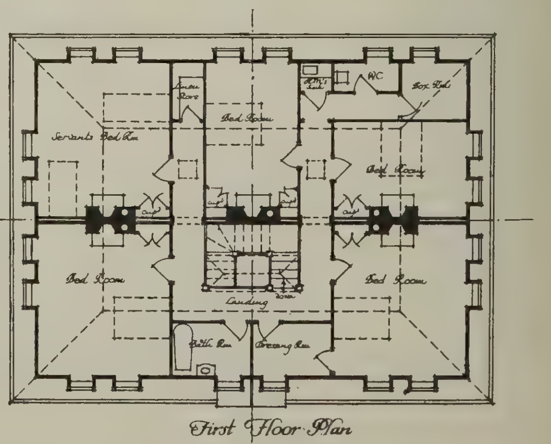
This very attractive little house has been erected for Mr. T. W. Woodger from the designs of Messrs. A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, B.A., Architects. Apart from the general excellence of its architectural treatment, its main point of interest is that it is built entirely of concrete, the walls consisting of two thicknesses of 4½-in. concrete blocks with a 2-in. cavity between. The mansard roof was cast *in situ* and is reinforced with circular metal rods. The windows and the external woodwork generally are painted white, and the walls are cement-rendered. A touch of character is given to the chimney stacks by fluting the capping—also in cement rendering. The front door is of mahogany. Internally, the principal feature is a fine oak staircase, stained dark and waxed and polished. Some interesting details of the staircase and of other features—internal and external—are given on the double-page plate in this issue.

The builders were Messrs. W. H. Lascelles, of Croydon.





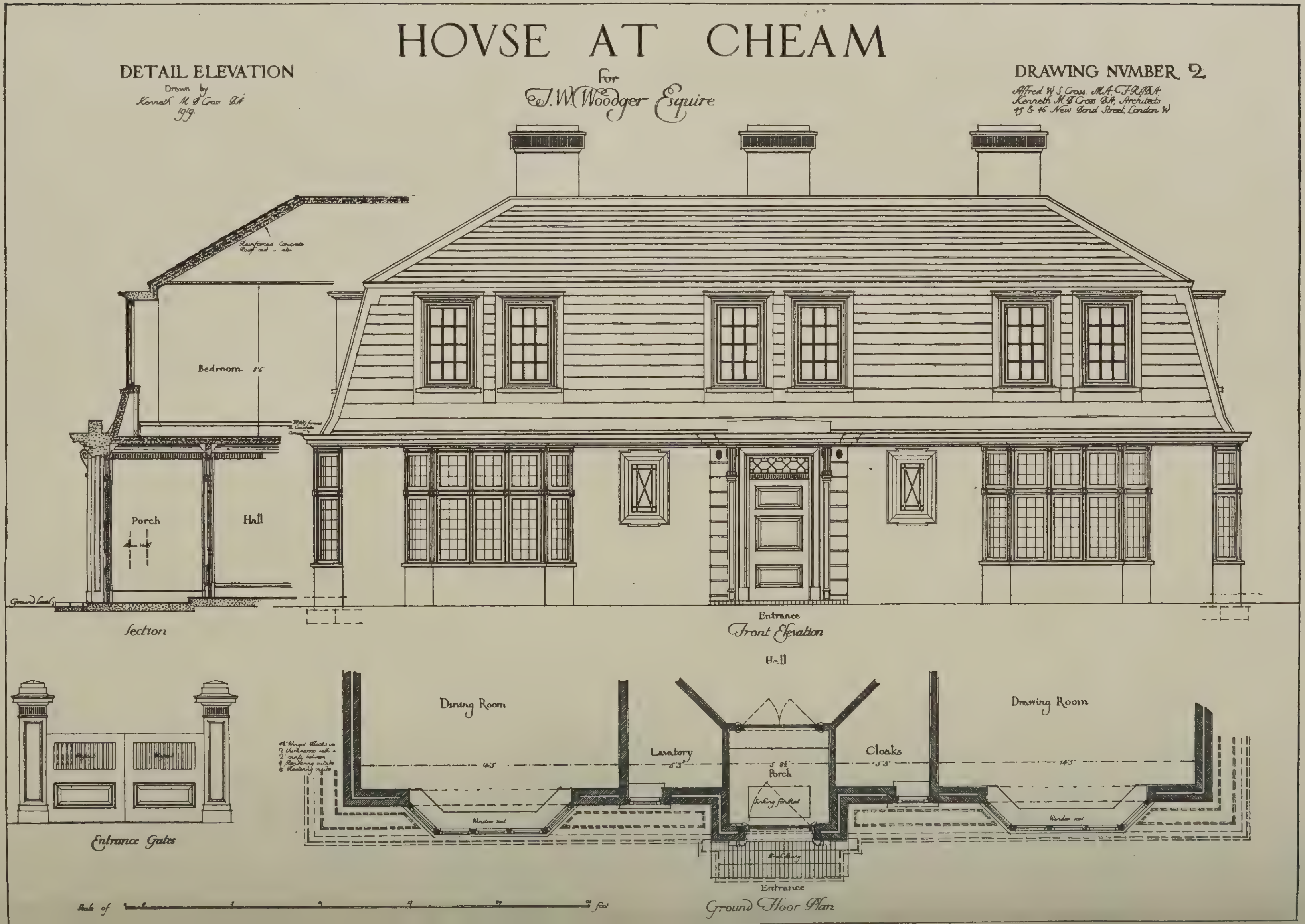


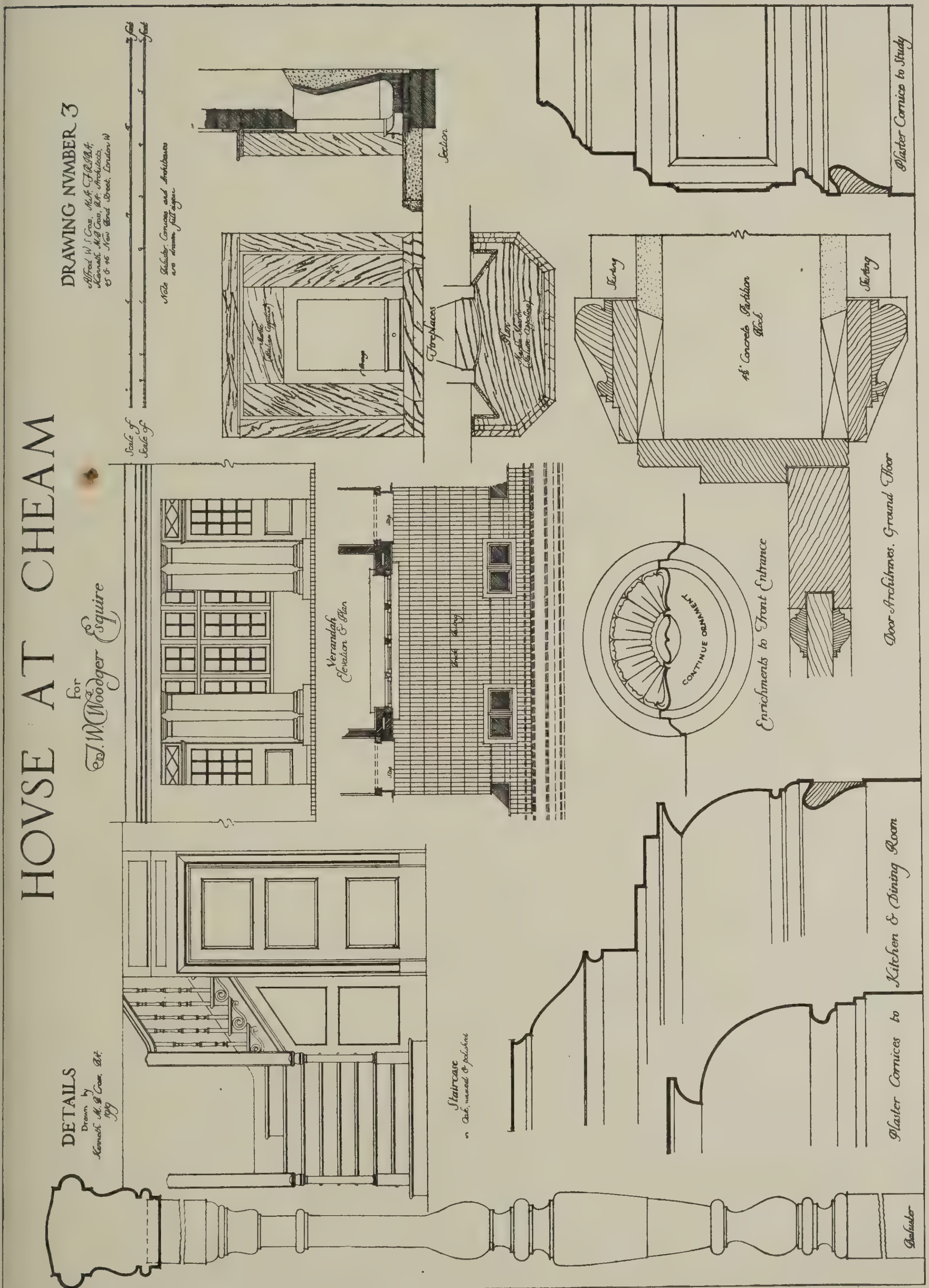


HOUSE AT CHEAM, SURREY. ALFRED W. S. CROSS, M.A., F.R.I.B.A., AND KENNETH M. B. CROSS, B.A., ARCHITECTS.

Architects' Working Drawings. 27.—House at Cheam, Surrey

A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, B.A., Architects.




HOVSE AT CHEAM
For
J. W. Woodger Esquire
DRAWING NVMBER 3
Alfred W. S. Cross, M.A. F.R.I.B.A.
Kenneth M. B. Cross, B.A. Architects,
45 & 46 New Bond Street, London W
Note Baluster, Cornices and Architraves are drawn full size
Scale of
Scale of
feet
feet
DETAILS
Drawn by
Kenneth M. B. Cross, B.A.
1919
Section
Fireplaces
Verandah
Elevation & Plan
Staircase
Enrichments to Front Entrance
CONTINUE ORNAMENT
4" Concrete Partition Wall
Skirting
Skirting
Door Architraves. Ground Floor
Plaster Cornice to Study
Plaster Cornices to Kitchen & Dining Room
Baluster

Architecturally delightful, this little house is also interesting structurally, being built entirely of concrete. Some descriptive particulars, together with plans and perspective views, are given on page 158.

An Exhibition of Rickards Drawings and Sketches

The exhibition of drawings and sketches by the late E. A. Rickards which is now being held at the Architectural Association, reveals that brilliantly gifted architect in many media, manners, and moods. If some of his more notable achievements in architectural design and draughtsmanship are missing from the walls (and in the case of one so prolific the task of selection is supremely difficult), the exhibition is, at all events, thoroughly representative of the various aspects and phases of his work.

Architects will naturally be most interested in his architectural drawings and designs—some carefully finished, others mere suggestions obviously dashed off in moments of creative ecstasy, but all showing the touch of the master hand. One or two of his earlier (measured) drawings (apparently belonging to his student days at South Kensington) are on view, and these will be studied as much for their sentimental interest as for the promise that they show of his later and fuller powers of draughtsmanship.

That Rickards could have made a considerable reputation for himself as an artist, quite apart from the practice of architecture, is manifest. He had a distinct capacity for lithography, an agreeable manner in water-colour painting, and a gift for caricature that would have brought him fame and fortune had he cared to turn it to practical account. Excellent examples of his art in all these kinds are on view.

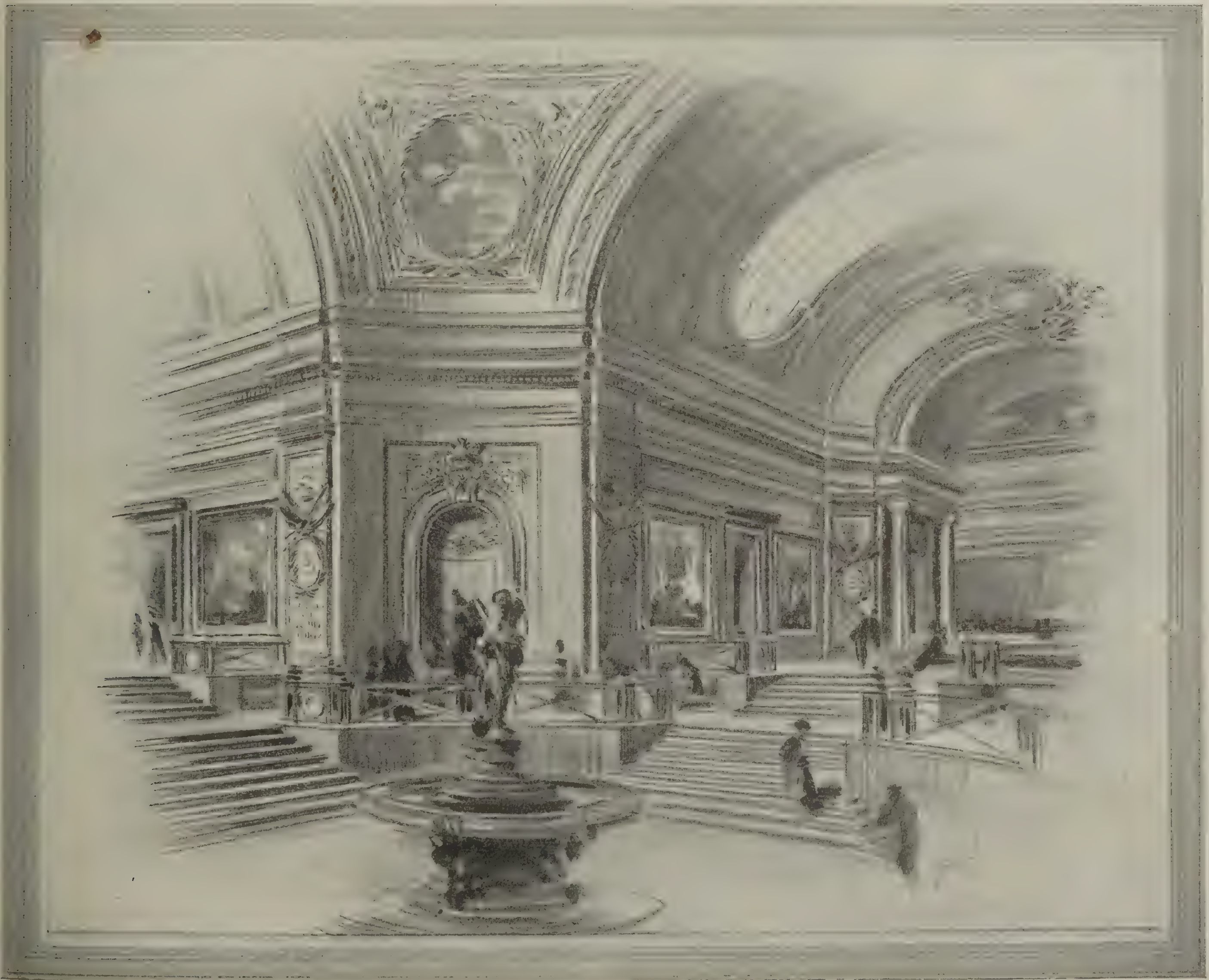
One of his last designs was that for the Canadian War Memorial building, and in this he shows all his old power of draughtsmanship, the same grasp of architectural essentials, the same enthusiasm for Baroque detail and slashing horizontal mouldings. A reproduction of his brilliant water-colour perspective of the interior is given below.

The Architectural Association has done well in bringing together this representative collection of his drawings and sketches, many of which, it may be noted, are reproduced in the monograph on "The Art of E. A. Rickards" (with an introduction by Mr. Arnold Bennett, together with appreciatory articles by Mr. H. V. Lanchester and Mr. Amor Fenn), recently issued by Technical Journals, Ltd.

The exhibition closes on February 16.

Edinburgh Architectural Association

Mr. William Cowan, president of Old Edinburgh Club, recently lectured to the Edinburgh Architectural Association in the Hall of the College of Art, Lauriston, on "Early Views and Plans of Old Edinburgh." There was exhibited a series of photographs of all the known published maps and views of Edinburgh down to the rise of the New Town; and some account was given of their origin and the circumstances of their publication. The earliest was a sketch of a castle dating from the fourteenth century, probably intended for Edinburgh. In the sixteenth century there were the drawing illustrating the attack on the town by the English in 1544; the plan showing the siege of the Castle in 1573, and the somewhat imaginary view published on the Continent in a collection of views of the principal cities of Europe. The earliest reliable plan was that executed by the Rev. James Gordon, of Rothiemay, at the instance of the Edinburgh Town Council. Two differing engravings of this were shown, and also six other views prepared by Gordon at the



DESIGN FOR THE CANADIAN WAR MEMORIAL: PERSPECTIVE OF INTERIOR.

(From a water-colour drawing by the late E. A. Rickards.)

same time. Following two views of the city from the south by Van den Hoyen and W. Hollar, the work of Captain Slezer was discussed in connection with the views appearing in the various editions of his "Theatrum Scotiae." The principal authority for the topography of Edinburgh in the middle of the eighteenth century was the plan by Wm. Edgar, published in 1742, and reissued with illustrations in 1765. A plan published by Kirkwood, founded on surveys made in 1759, afforded information on the various properties north and south of the Old Town now covered by the modern city; and Armstrong's plan, of which at least four editions appeared between 1773 and 1787, illustrated the progress of the New Town during the earliest years of its existence. Mr. T. P. Marwick, A.R.I.B.A., president, was in the chair, and a vote of thanks to the lecturer was moved by Dr. T. Ross.

The next meeting of the Association will be held on February 24, when Mr. W. Forbes Grey will lecture on "George Square."

Enquiries Answered

Dark Red Rough Pantiles.

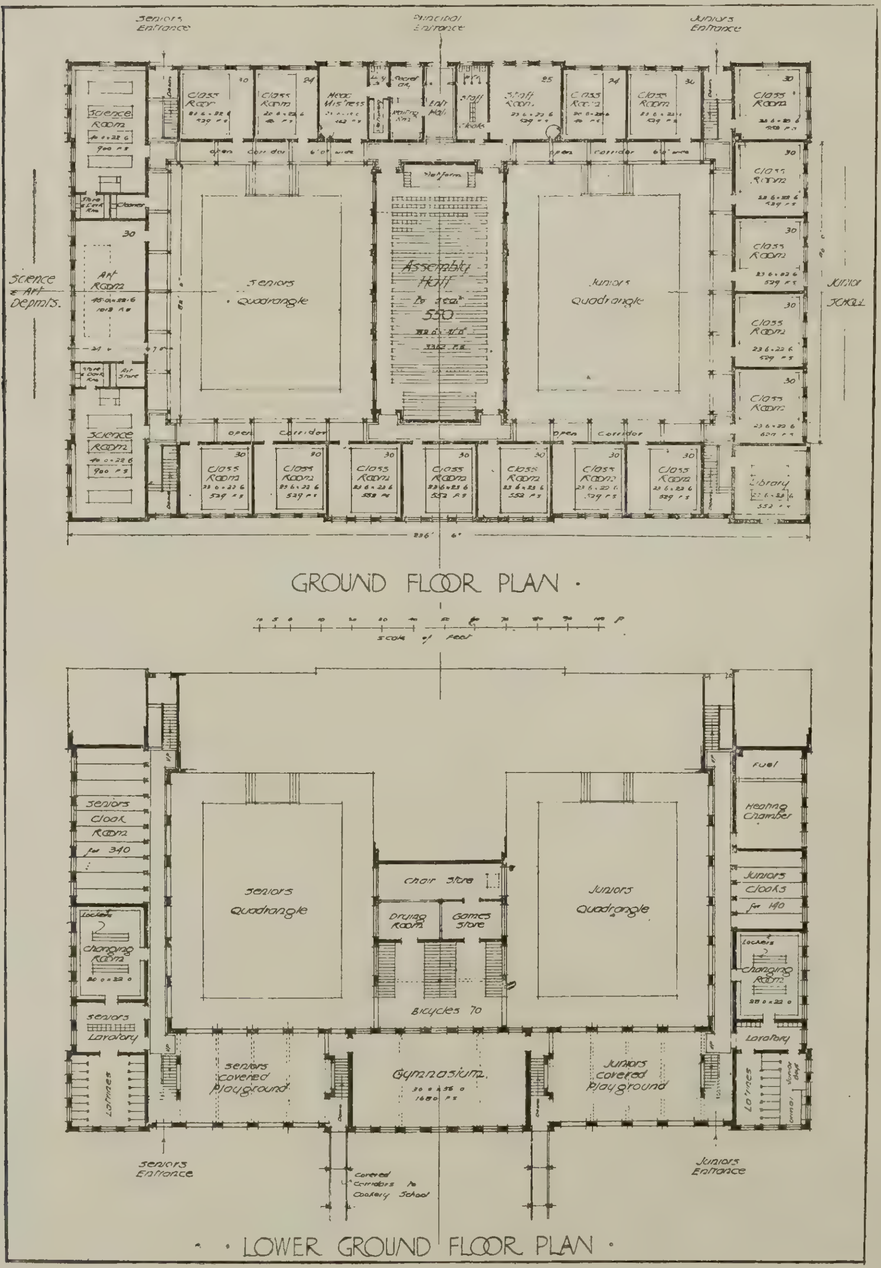
H. C. writes: "In the article on 'Bungalows,' printed in your issue of December 29, Mr. Cross made reference to a bungalow roofed with 'dark red rough pantiles.' Please inform me where these pantiles may be obtained."

—Until recently these pantiles could be obtained from Mr. H. Adams, of Weybridge, builder. We understand that they are no longer obtainable from this source owing to the fact that Mr. Adams has left the building industry.

Surveyors' Institution and Quantity Surveyors' Association.

J. E. U. writes: "What qualifications are necessary to become a member or fellow of the Surveyors' Institution and of the Quantity Surveyors' Association?"

—Owing to the great pressure on our space we regret that it is impossible to give full particulars of the qualifications necessary, and the examinations to be passed, to gain entrance to these professional bodies. Special booklets giving all the necessary information may be obtained from the Secretaries. The address of the Surveyors' Institution is 12 Great George Street, Westminster, S.W.1, and that of the Quantity Surveyors' Association 28 Victoria Street, Westminster, S.W.1.



GIRLS' HIGH SCHOOL, BURTON-ON-TRENT: PLANS OF FIRST PREMIATED DESIGN.

W. AND T. R. MILBURN, FF.R.I.B.A., ARCHITECTS.

Cinema Balcony and Screens.

W. S. B. writes: "Apropos the article on 'The Design, Planning, and Equipment of Cinematograph Theatres' in your issue of December, 1920, would you please give me the following information: (1) Is it law that not more than one gallery or balcony must be built in a picture theatre? (2) If more than one is permissible, does the maximum slope of 35 deg. still hold good? At the Stoll Cinema in Kingsway there are actually three circles, and the top one appears to slope at least 40 deg. to 45 deg. Of course, this building was not built as a cinema, but I imagine that on conversion the Building Acts for a picture theatre hold good. (3) You state that the screen must not be more than 14 ft. from the floor level. At what distance from the screen is it possible to put the nearest row of seats for a view of the picture? Is it allowable, if the distance from front row to screen is considerable, to place the bottom of the screen more than 14 ft. up?"

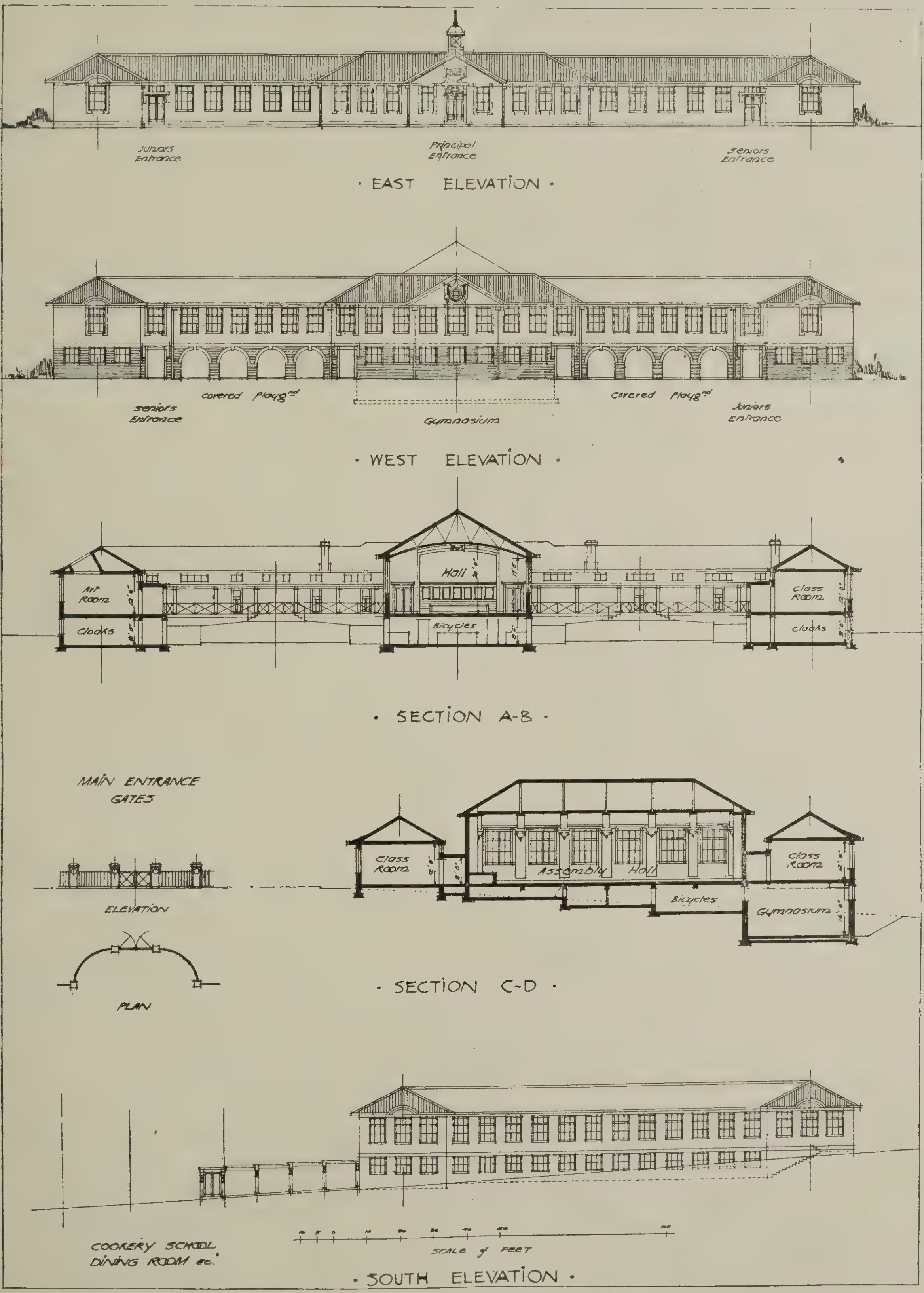
—(1) There is no regulation of the London County Council prohibiting the construction of more than one gallery for a cinema. (2) The angle of 35 deg. is not embodied in the regulations governing cinemas, but the Council has jurisdiction over the rake, and will rarely consent in new buildings to a greater slope. (3) With reference to the height of the screen above floor level, 14 ft. up from the floor is mentioned as the maximum height, because taking the average distance from the first row of seats as about 15 ft., a greater height is extremely uncomfortable for the audience, but the ideal height is about 7 ft. The factor that governs the height of the screen is the position of the operator's room, and the sight line from the back of the auditorium under the balcony. The more the screen is raised above the floor the greater the height of the balcony at its lowest point, and, consequently, the rake of the balcony must be increased to provide a good view of the picture. It thus follows that the position of the screen has to be arranged in conjunction with the rake and extent of the balcony, and the position of the operator's room. No absolute rule can be given for its position except the maximum and minimum height under ordinary conditions when the maximum seating accommodation is required, which is as stated.

Burton Girls' School Competition

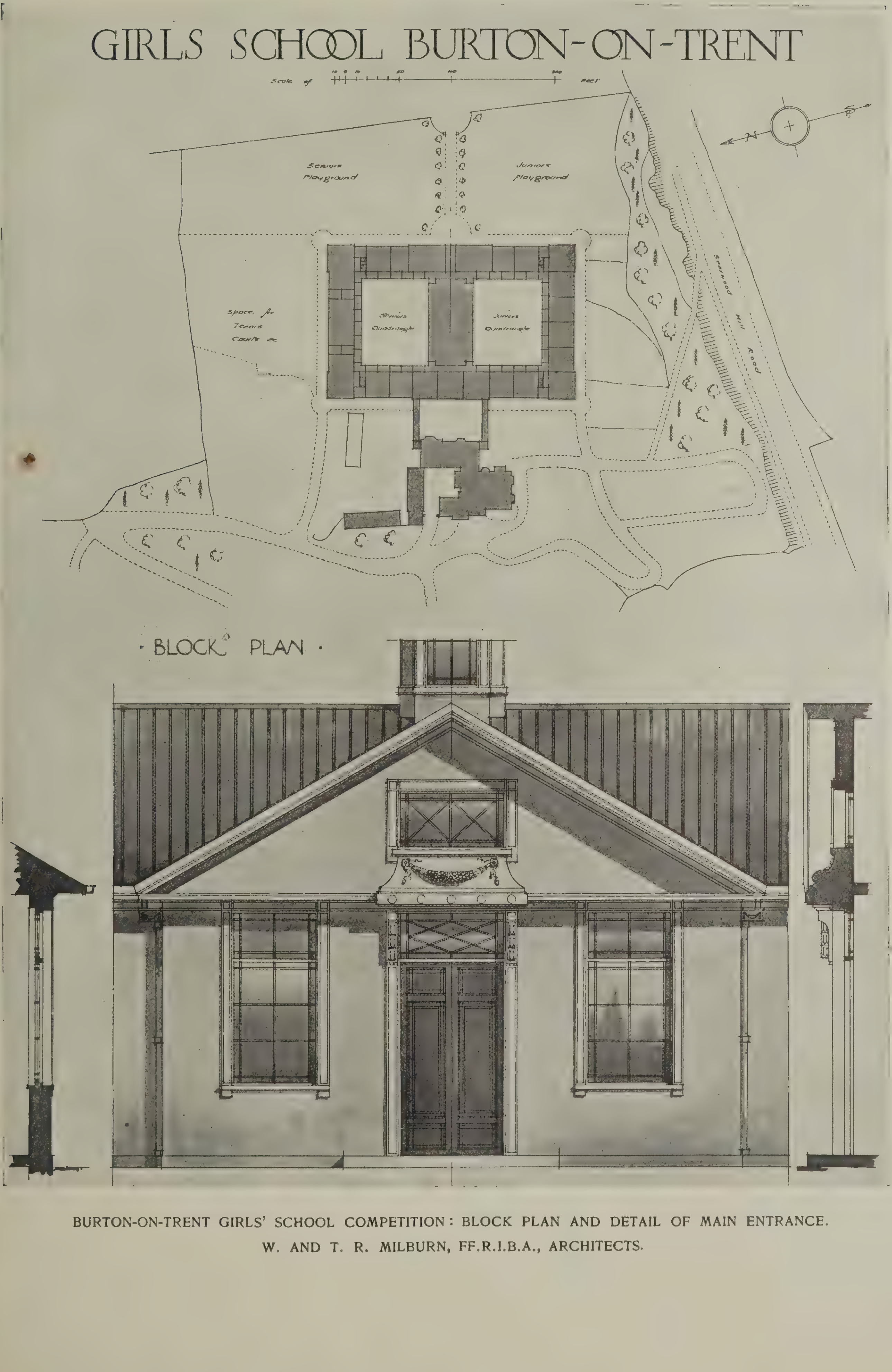
The awards in this competition were announced last week. In this issue we publish the first premiated design, by Messrs. W. and T. R. Milburn, FF.R.I.B.A., of Sunderland, who have produced a scheme that is admirable both in planning and architectural treatment. The total cost of the building, including electric lighting, heating, ventilation, and drainage, is estimated at £46,138. A block plan and a detail of the main entrance are reproduced on page 167.

Current Architecture. 57.—Burton-on-Trent Girls' High School Competition: Elevations and Sections of Winning Design

W. and T. R. Milburn, FF.R.I.B.A., Architects



The awards in the above competition were announced in our last issue. The winning design follows the quadrangular system of planning, with open corridors. The administrative and teaching rooms, together with the assembly hall, are all provided on one floor, cloakrooms, covered playgrounds, gymnasium, etc., being accommodated on a lower ground floor contrived in the fall of the site. The scheme is estimated to cost £46,138.



BURTON-ON-TRENT GIRLS' SCHOOL COMPETITION: BLOCK PLAN AND DETAIL OF MAIN ENTRANCE.
W. AND T. R. MILBURN, FF.R.I.B.A., ARCHITECTS.

Architects' Benevolent Society

Following is the first list of new subscribers, increased subscriptions, and donations to the Architects' Benevolent Society:

Name.	New subs. £ s. d.	Increased subs. £ s. d.	Donations. £ s. d.
Abercrombie, T. Graham (Paisley)	1 1 0		
Addenbroke, Lt.-Col. J. S. (Edinburgh)			1 1 0
Agutter, J. C. (London)	1 1 0		
Alexander, S. G. (Scotland)	1 1 0		
Anderson, J. C. (London)			1 1 0
Angell, R. (London)	1 1 0		
Anonymous			1 0 0
Arlidge, W. (London)	2 2 0		
Armstrong, C. T. (Bexhill)			2 2 0
Atkinson, C. T. (Leeds)	5 5 0		
Atkinson, R. (London)	1 1 0		
Atkinson, T. D. (Winchester)		2 2 0	5 5 0
Aumonier, W. (London)	1 1 0		
A.R.I.B.A. (instead of "Forster")	1 1 0		
Badcock, H. (Croydon)			2 0 0
Baguley, H. (Ditton)	1 1 0		
Baines, George, and Son (London)	1 1 0		
Barker, H. W. (Bradford	0 10 6		
Barker and Heyland (Manchester)	1 1 0		
Barker-Bradley, R. (Plymouth)			0 10 0
Barrow, E. R. (London)		2 2 0	
Barry, W. E. (Broadstone)	1 1 0		
Batchelor and Hicks (Dublin)	2 2 0		
Beard, J. S. (London)	1 1 0		
Beart Foss, J. H. (London)	1 1 0		
Beevers, W. A. (Leeds)	1 1 0		
Belfrage, J. H. (London)	1 1 0		
Bell, M. J. (London)	1 1 0		
Benians, H. J. (Goudhurst)	1 1 0		
Bennett, T. P. (London)	1 1 0		
Beswick, H. (Chester)		3 3 0	
Biddulph-Pinchard, C. H. (London)	1 1 0		
Blacking, W. N. R (Guildford)	1 1 0		
Blatherwick, G. H. (Nottingham)	1 1 0		
Blomfield, A. C. (London)	2 2 0		
Bluhm, Q. Mangnall (St. Anne's-on-Sea)	1 1 0		
Boddington, H. (London)			1 1 0
Bond, A. G. (London)		1 1 0	
Botterill, A. B. (Bristol)	1 1 0		
Bowles, A. R. (Folkestone)	1 1 0		
Briggs, J. (London)	1 1 0		
Briggs, J. P. (London)	1 1 0		
Brocklesby, J. S. (Merton)	1 1 0		
Brooks, W. E. (Croydon)	1 1 0		
Brown, H. M. (Wolverhampton)	1 1 0		
Brown, P. (Bridlington)	1 1 0		
Brown, W. Talbot (Wellingborough)	1 1 0		
Bullough, E. (Cambridge)	2 2 0		
Bulmer, F. H. (London)	0 10 6		
Burdett Ward, F. (Wisbech)			1 0 0
Burleigh, H. (Hastings)	1 1 0		
Burnett, A. S., and Sons (Southampton)	1 1 0		
Burrage, C. (London)	1 1 0		
Burrows, H. W. (London)	2 2 0		
Burrows, W. J. (London)	1 1 0		
Butterworth, R. H. (Milford)	2 2 0		
Cackett, J. T. (Newcastle)	2 2 0		10 10 0
Cairns, J. W. (Edinburgh)	1 1 0		
Cameron, K. (Cheshire)	1 1 0		
Campbell, S. H. (London)	1 1 0		
Capon, F. Sizer (London)	1 1 0		
Capper, G. H. (London)	1 1 0		
Cardo, G. (London)	2 2 0		
Carey, R. W. (London)	1 1 0		
Carruthers, J. (Glasgow)	1 1 0		
Caunell, E. (London)	1 1 0		
Chambers, H. A. (London)	1 1 0		
Chancellor, F. G. (London)	1 1 0		
Chatterton, F. (London)	1 1 0		
Cheny, H. W. (London)	1 1 0		
Cherry, W. G. (High Welwyn)	1 1 0		
Chilton, E. A. (Uckfield)	1 1 0		
Chorley, H. S. (Leeds)	1 1 0		
Clark, D. W. (Colchester)	1 1 0		
Clark, J. P. (Wednesbury)	1 1 0		
Clough, H. K. (Rochdale)	1 1 0		
Coad, P. (Bromley)			0 5 0
Cobb, E. F. (Rochester)		1 1 0	
Cole, J. G. (London)			1 1 0
Collins, C. D. (London)	1 1 0		
Collins, E. S. (London)	1 1 0		
Collinson, G. F. (London)			3 3 0
Collis, H. (London)	1 1 0		
Cook, F. P. (Mansfield)	1 1 0		
Cooksey, A. W. (London)	1 1 0		
Cope, G. A. (Leicester)	1 1 0		
Corderoy, G (London)	1 1 0		
Cotton, J. (Birmingham)			1 1 0
Courtney, H. G. (Winchester)	1 1 0		
Cowell, H. (Newquay)	1 1 0		
Cox, R. L. (London)	1 1 0		
Craze, R. B. (London)	1 1 0		
Crickmer & Foxley, Messrs. (London)	1 1 0		
Croft, C. (Northampton)	1 1 0		
Crosbie, L. S. (London)	1 1 0		
Crothall, H. G. (London)	1 1 0		
Crowly, W. S. Leger (Wisbech)			1 1 0
Crump, T Graham (Croydon)	1 1 0		
Cubitt, H. (London)	1 1 0		
Culley, N. (Huddersfield)	1 1 0		
Cummings, F. (Manchester)	1 1 0		
Cunliffe, R. H. (Fleetwood)	1 1 0		
Currey, H. W. (London)	1 1 0		2 2 0
Curtis, S. Carey (Guernsey)	1 1 0		
Dakin, E. A. (Loughborough)	0 10 6		
Dales, S. P. (London)	1 1 0		
Dane, H. (Dover)	1 1 0		
Darbyshire, T. S. (London)	0 10 6		
Davies, W. P. (Birmingham)	1 1 0		
Davies, R. W. (Newtown, Montgomeryshire)	1 1 0		
Davison, T. R. (Woldingham)	1 1 0		
Dawson, C. J. (Barking)		2 2 0	
Dawson, W. C. (London)	1 1 0		
Dawson, H. H. (Barking)	1 1 0		
de Lafontaine, H. P. Cart (London)	1 1 0		
Deane & Braddell, Messrs. (London)	1 1 0		
Dening, C. F. W. (Bristol)			3 3 0
Dennis, E. D. (Blackpool)	1 1 0		
Derry, D. C. L. (London)	1 1 0		
Dixon, H. S. (N. Shields)	1 1 0		
Doe, H. W. (London)	1 1 0		
Donald, H. W. (Natal)	1 1 0		
Dossor, J. M. (Hull)	1 1 0		
Dryden, F. M. (Newcastle)	1 1 0		
Duncanson, E. F. (London)	1 1 0		
Dunn, J. G. (Cambuslang)	1 1 0		
Dunn, J. B. (Edinburgh)			1 1 0
Edeson, C. W. (Mansfield)	1 1 0		
Ellis, G. (Worsley)	1 1 0		
Ellwood, G. M. (London)	1 1 0		
England, E. S. (Oldham)	0 10 0		
Epps, W. M. (London)	1 1 0		
Fagg, A. H. (London)			1 1 0
Fairhurst, H. S. (Manchester)	1 1 0		
Favarger, H. (London)	2 2 0		
Fenty, F. T. (York)	1 1 0		
Fermaud, E. A. (London)	1 1 0		
Field, Horace (Woking)			1 1 0
Finchett, F. W. (Southport)			1 1 0
Fisher, F. J. (London)	1 1 0		
Fitzsimons, N. (Belfast)	1 1 0		
Fleming, H. S. (London)	1 1 0		
Fletcher, H. E. (London)	5 5 0		
Flowers, H. H. (London)			1 1 0
Ford, C. (Reading)	1 1 0		
Forrest, G. T. (London)	1 1 0		
Forsyth & Maule (London)	1 1 0		3 3 0
Foss, J. H. Beart (London)	1 1 0		
Foster, W. T. (London)	1 1 0		
Frampton, R.A., Sir George (London)	3 3 0		
Fraser, G. (Liverpool)	1 1 0		
Fraser, P. M. (London)	1 1 0		
Frere, E. C. (London)	1 1 0		
Fry, P. G. (Weston-super-Mare)	1 1 0		
Fulton, J. B. (Glasgow)	1 1 0		
Gamble, H. G. (Lincoln) (two years)	2 2 0		1 1 0
Garlick, F. J. (London)	1 1 0		
Gaskell, P. (Hull)	1 1 0		
Gaymer, B. P. (North Walsham)	1 1 0		
Gilbert, W. (Birmingham) (two years)	2 2 0		
Gilbert, W. (London)	1 1 0		
Gilman, E. F.	1 1 0		
Goddard, H. J. (Newton Harcourt)	1 1 0		1 1 0
Goslett, H. (London)			1 1 0
Gray, A. (Hertford)	1 1 0		
Grazebrook, T. (Stourbridge)			1 1 0
Green, A. Mowbray (Bath)	0 10 6		
Grundy, J. W. (Ulverston)	1 1 0		
Gunton, W. H. (London)	1 1 0		
Gunton, J. (London)	1 1 0		
Gurney, A. E. (London)	1 1 0		
Guthrie, L. R. (London)	1 1 0		
Haines, H. (Bedford)	1 1 0		
Hall, E. S. (London)	2 2 0	2 2 0	
Hall, H. Austen (London)	5 0 0		
Hall, A. W. (London)	1 1 0		
Hall and Fenton			2 2 0
Hanton, P. K. (London)	1 1 0		
Hardcastle, F. H. A. (London)	1 1 0		
Hardy, M. (Dorchester)	1 1 0		
Harrild, F. (Totnes)	1 1 0		
Harris, E. Vincent (London)	3 3 0		
Harris and Hobson, Messrs. (Liverpool)			2 2 0
Harrison, N. W. (Oxford)	1 1 0		
Hart, E. J. (Capt.) (Manchester)	1 1 0		
Haryey, W. A. (Birmingham)	1 1 0		
Hawkes, H. C. (Birmingham)	1 1 0		
Hawkins, P. W. (London)	1 1 0		
Haxton, A. D. (Leven)	0 10 6		
Hays, J. Wilson (Wingate, Durham)	1 1 0		
Hayward, A. B. (London)		2 2 0	
Haywood, W. (Birmingham)	1 1 0		
Hedderwick, D. B. (London)	1 1 0		
Helme and Corbett (London)	1 1 0		
Henry, T. W. (Belfast)	1 1 0		
Hett, L. Keir (London)	1 1 0		
Hewitt, A. S. (Great Yarmouth)			1 1 0
Hibbert, A. (London)	1 1 0		
Hick, E. M. (Cheam)	1 1 0		
Hignett, C. H. (Letchworth)	1 1 0		
Hider, E. J. W. (London)	1 1 0		
Hiorns, F. R. (London)	1 1 0		
Hobday, W. (London)	1 1 0		
Hodgson, A. N. W. (Windermere)	1 1 0		
Holman, A. R. (Exeter)			2 12 0
Honeyman, H. L. (Newcastle) (two years)	2 2 0		
Honnor, T. (Newbury)	1 1 0		
Hopkins, W. B. and Mrs. (Berkhampstead)			2 2 0
Horder, P. Morley (London)	1 1 0		
Hornblower, G. (London)	2 2 0		
Horsburgh, W. P. (Liverpool)	1 1 0		
Horsfall, C. F. L. (Halifax)	1 1 0		
Houfton, P. B. (Chesterfield)	1 1 0		
Howgate, W. Church (Richmond)	1 1 0		
Hubbard, G. E. (Newnham-on-Severn)	1 1 0		
Hubbard, W. H. Guest (Luton)	1 1 0		
Hubbard, P. W. (London)	1 1 0		
Humphrey, F. J. (Surbiton)			1 1 0
Hunt, Messrs. W. and E. A. (London)			5 5 0
Hunt, W. G. (London)	1 1 0		
Huntly-Gordon, H. (London)			1 1 0

Weekly Housing Report

The rate at which houses are being completed under the terms of the Government grant to private builders continues to improve. During the week ended January 28, the grant was paid in respect of 621 completed houses. The number of houses completed under the grant is approximately 8,000, the number of certificates "A" (authorising the building of houses eligible for the grant) which have been issued is 30,291—and the commitment of the Government in regard to these houses is £7,342,863. Of this, a sum of £1,759,948 has already been paid.

New housing schemes submitted to the Ministry of Health during the week ended January 28 numbered forty-six, bringing the total number of schemes submitted to 11.549. The schemes approved now number 8,957, and comprise about 57,738 acres. Twenty-eight lay-out schemes were submitted, and thirty-five were approved during the week, bringing the total number of lay-outs submitted to 7,194, and number approved to 6,625.

House plans, representing 2,118 houses, were submitted, and plans for 1,373 houses approved. The total number of houses represented in all plans now submitted is 291,100, and in the plans approved 274,044. During the week tenders were submitted for 1,199 houses. Tenders for 744 were approved, bringing the total number of houses in tenders submitted to 187,000, and in tenders approved to 173,014. Contracts have been signed for 144,777 houses.

The Week's News

Coalville Housing.

The U.D.C. propose to erect 700 dwellings.

New Theatres for Clonmel.

Two theatres are being erected in Clonmel.

Housing at Lancaster.

The T.C. have decided to erect fifty houses.

Housing at Rye.

The first sod has been cut in connection with the erection of ninety houses.

Housing at Chislehurst.

Seventy-four houses are to be erected on the Cray Road site at a cost of £25,070.

Stone Housing Loan.

The R.D.C. are borrowing £34,500 from the Public Works Loan Commissioners for housing.

Wooden Houses for Essex.

Three pairs of wooden houses, to cost £650 per house, are to be erected by the Rochford R.D.C.

York Minster Windows.

The Dean of York is appealing for £50,000 for the preservation of the windows of York Minster.

Wakefield Housing Loan.

The Ministry of Health have sanctioned a loan of £24,630 for housing at Crigglestone, and £870 for sewerage works.

Covent Garden War Memorial.

A new entrance is proposed to be erected to the east end of St. Paul's Church, Covent Garden, as a war memorial.

Belfast Oil Depot.

It is proposed to erect a special oil depot on a site of twenty-eight acres at the entrance to Belfast Harbour.

Mold War Memorial.

A memorial chapel is to be erected in Mold Parish Church from the designs of Sir Thomas G. Jackson, R.A.

Housing at Newark.

A scheme for the erection of 500 houses has been approved by the Housing Committee.

R.D.C. and Direct Labour.

Chirk R.D.C. have decided to ask the Ministry of Health to sanction the carrying out of the housing schemes in the Glyn Valley by direct labour.

Housing at Barnstaple.

The erection of twelve houses on the Newport site is to be proceeded with. The complete scheme of the T.C. provides for 200 houses.

Peterborough Infirmary Extensions.

The Peterborough Board of Guardians have appointed Messrs. Wilson architects for the erection of the children's ward at the Workhouse Infirmary.

Fishing Harbour Needed at Filey.

Filey U.D.C. have decided to place before the House of Commons evidence as to the great need of a fishing harbour at Filey.

Stretford Housing Progress.

One hundred and twenty-seven new houses, under the U.D.C. schemes, are now occupied, and 323 are in various stages towards completion.

Housing in Lanarkshire.

The full State-aided scheme for the Middle Ward provides for the erection of 5,000 houses on fifty sites. Contracts have been let for 3,174 houses and 700 are in course of erection. Tenders are under consideration for the remainder.

Southwick Building Scheme.

The U.D.C. have received the sanction of the Ministry of Health to a loan of £150,000 for housing.

Proposed Extension of St. Hilda's Hall.

An appeal is being made for £60,000 to extend St. Hilda's Hall College for Women at Oxford.

Colne Housing Loan.

The T.C. have received the sanction of the Ministry of Health to a loan of £55,190 for the erection of houses on the Judge Fields site.

Proposed New Loriners' Hall.

Sir L. Newton, the Master, presiding over a dinner given by the Loriners' Company, invited the members to co-operate with him to secure without delay a hall for the company.

Bradford Housing Progress.

Of the 422 houses in course of construction for the Bradford Corporation on the Odsal estate, the first group of six is now finished, and the next group is rapidly nearing completion.

Flintshire Architect's New Appointment.

Mr. Samuel Evans, F.S.I., for many years county surveyor and architect to the Flintshire County Council, has received a Government appointment under the Ministry of Transport.

Stone Houses for Dundee.

Subject to the approval of the Board of Health, the Dundee Housing Committee have placed a contract with Messrs. D. K. Symington, of Dundee, for the erection of 132 stone houses at a cost of £52,800.

Housing at Hemel Hempstead.

£7,000 is to be borrowed by the R.D.C. for the Flamstead and Potten End housing schemes. The Public Works Loan Commissioners have sanctioned a loan of £30,745 for the Bovingdon and Chipperfield housing schemes, and the Housing Commissioner has approved plans of the proposed houses for Gaddesden Road and Jockey End.

King's Lynn War Memorial.

A memorial to the men of King's Lynn who fell in the war, erected in the centre of the Grey Friars Tower Gardens, takes the form of a Portland stone cross, 33 ft. high, raised on steps. The base is in the form of a pedestal, the main panels of which, in addition to an inscription and the arms of the town, bear the names of the fallen. On subsidiary panels are inscribed the names of the theatres of war and the most important naval and land battles. The memorial has been designed by Messrs. O. P. Milne, F.R.I.B.A., and Paul Phipps, F.R.I.B.A.

Death of a Liverpool Architect.

We regret to record the death of Mr. Thomas Taylor Wainwright. Born in Manchester, he served his articles in the office of his father, and then became engaged with Mr. Alfred Waterhouse, of Manchester, architect. Eventually he joined partnership with his brother, and carried on the firm of Thomas Wainwright and Sons, of Liverpool. In 1889 he was elected a Fellow of the Surveyors' Institution, and become president in 1906. He was also a member of the Surveyors' Association, and for many years was a Fellow of the Liverpool Architectural Society, besides being attached to the Historical Society of Lancashire and Cheshire.

London Building Guild.

Apropos the decision of the Ministry of Health to discourage for the present the signing of further housing contracts between local authorities and the builders' guilds, the Ministry has now decided that the twenty schemes originally arranged are to be completed. With only two contracts, the London Guild believe that they will be able to demonstrate the success of their scheme so conclusively that it will be difficult for the Ministry to refuse them further facilities. The two contracts now being undertaken by the London Guild are in respect of housing schemes at Walthamstow and Greenwich. Work has not yet been commenced at the latter place, but at Walthamstow a start was made some weeks ago on a batch of 400 houses.

The Architectural Association of Ireland.

Mr. J. C. Dewhurst, A.R.I.B.A., presided over the last ordinary general meeting of the Architectural Association of Ireland, when Mr. J. V. Downes, B.Arch., delivered a very interesting lecture, describing his recent visit to the principal centres of architectural interest in Holland and Belgium and at Paris. The lecture was illustrated by numerous lantern slides from photographs taken by Mr. Downes, many of which were unique and displayed a considerable judgment in the matter of choice of subject and point of view. Mr. T. L. Cullimore proposed a cordial vote of thanks to Mr. Downes, which was seconded by Mr. C. A. Harrington. The president having addressed the meeting the proceedings terminated.

Architects' Assistants Visit St. Paul's Cathedral.

About thirty members of the Architects' and Surveyors' Assistants' Professional Union have paid a visit to St. Paul's Cathedral, under the direction of Mr. Mervyn Macartney, F.R.I.B.A., B.A.(Oxon), F.S.A., surveyor to the Fabric, who kindly acted as guide. During the visit the party inspected the repairs at present being carried out to one of the piers supporting the dome. Owing to a settlement, the dome has been tilted slightly, causing much extra weight to be concentrated on two of the piers. This has led to serious crushing of some of the stones, which have had to be cut out and replaced by others. The foundations of the piers are being strengthened with reinforced concrete. Some of the members went up to the top of the dome, and a few to the ball below the cross.

The Future of Santa Sophia.

The future of Santa Sophia at Constantinople has been discussed by Mr. F. M. Simpson, F.R.I.B.A., in an illustrated lecture before the Royal Archæological Institute. Since the armistice, he said, the question had arisen whether this church, the finest in Europe, should revert to the Christians. To whom should it be entrusted? The Turks, who had repaired and taken care of the building, would do nothing in the present state of uncertainty; but he suggested that the best solution was to let them keep Santa Sophia, and to tell them promptly that they could keep it. This was the only way in which the great edifice could be preserved.

The Late Mr. G. F. Bowman

It is with deep regret that we record the death of Mr. George Frederick Bowman, which occurred at his residence, Park Lodge, Park Avenue, Roundhay, Leeds. A Leeds man by birth, he was educated at the Leeds Modern School, Pannel College, Harrogate, and afterwards became a pupil of the late Mr. Thomas Ambler, one of the leading architects of the city. Having served his apprenticeship, Mr. Bowman joined Mr. Ambler as partner, and between them they carried out many important works at a time when Leeds was developing very rapidly. Later Mr. Bowman commenced on his own account what turned out to be a very successful practice, in which he was joined in recent years by two of his three sons.

Mr. Bowman was a prominent member of the Conservative party, and carried out a great deal of useful work during his six years' membership, from 1907 to 1913, of the City Council. He was chairman of the Insanitary Areas Committee during the time when Leeds was engaged in the costly task of clearing away some of its worst slums, and his professional knowledge of this kind of work was valuable to the city. Later, when the Education Committee embarked upon its big scheme for the foundation of a training college for teachers at Beckett's Park, Mr. Bowman unreservedly placed all his knowledge and experience at the disposal of the late Alderman Kinder, then chairman of the Education Committee, and the planning of the scheme—which played so big a part in the restoration of the wounded during the war—owes much to the collaboration of these two Leeds citizens. Mr. Bowman served for five years as president of the Leeds and West Yorkshire Architectural Society.

At the time of Mr. Bowman's death the firm were carrying out the following buildings: clothing factory, Leeds; offices and finishing shed, Apperley Bridge; weaving shed, Manor Mills, Ossett; extensions to dye works, Leeds; new engineering shops; clothing factory; Stroud, Glos.; the New Gaiety Kinema, Leeds; and other work. Mr. Bowman, who was sixty-one years of age, also acted as surveyor for the Leeds City and District Permanent Building Society.

THE LATE MR. G. F. BOWMAN.

Competition News

Rothesay War Memorial.

War memorial. Cost £2,000. Successful architect to execute the work. Other premiums £15, £10, and £5. Apply, Mr. R. D. White, Town Clerk. Closing date, February 19.

Campbeltown War Memorial.

War Memorial. Cost £3,000. Apply, Mr. Donald Fisher, Seabank, Campbeltown. Closing date, April 8.

Other Competitions Open.

For particulars of other competitions open—R.E. Memorial, Chatham, and East Ham General Hospital—see issue Feb. 2.

R.E. War Memorial.

The assessor has issued the following answers to competitors' questions:

1. In the event of a joint design by an architect and sculptor being submitted, the names of both sculptor and architect should be sent in by the competitors, and they will be treated by the Committee, both in regard to premiums and in regard to the execution of the work should it proceed, as one partnership, in which the partners will make their own arrangements between themselves as to terms.

2. If a sculptor wins the competition, he must make his own arrangements with an architect, and pay the architect's fees.

3. Drawings as laid down in the conditions must be submitted; they may be accompanied by a model if desired. Drawings need not be mounted and may be finished in pencil.

4. The memorial will be approached by the existing broad straight roadway from the south-west and the north-east, and will be equally conspicuous from either side.

5. The memorial may be placed on the axis line of the Crimean Arch and the South African Arch, but if so placed free access must be left both to the Crimean and South African Arches of width at least sufficient to take men in fours or vehicles (not less than 12 ft.).

The site of the memorial is War Department land, and permission to erect the memorial has been obtained. The road is public, but no right of way exists.

6. There is no objection to the use of bronze in conjunction with stone, which must be hard Portland. Competitors must include in their estimate the cost of all metal required in their designs.

7. The existing surface of the roadway and ground between the Crimean and South African Arches is sufficient for traffic purposes.

8. The cost of excavating for foundations, levelling, and turfing need not be included in the estimate, but competitors must include in estimate the cost of all foundations and footings. If found necessary for the design, minor alterations may be made in the turfed spaces on either side of the Crimean Arch

9. An equestrian statue of Lord Kitchener is not necessary.

10. Should the successful competitor be unable to superintend the execution of his design, he must make his own arrangements (financial and otherwise) for the efficient superintendence of the work, such arrangements to be submitted to the Committee for their approval.

11. The wording of inscriptions is left to the discretion of the competitor, subject to approval by the Committee.

12. It has been decided to remove the two Boer statues on the south-east and north-east angles and the tablets behind them.

Latest List of New Inventions

Latest Patent Applications.

1493—McNamara, D.—Means for bonding hollow concrete walls. January 10.

1355—Renyi, A.—Building materials for use as wood substitute (four complete patent applied for, Nos. 1355-1358). January 10.

1205—Thiemann, R.—Gallery construction. January 10.

1481—Walker, A.—Subways, pipes, etc. January 10.

1744—Wilkins, H.—Concrete blocks, etc. January 11.

Specifications Published.

156275—Claughton, J.—Construction and erection of concrete dwellings and the like.

156319—Nagy, D. de.—Building-blocks and the like, and framings or structures for use with the like.

156385—Turner, W.—Construction of concrete sewers, conduits, and the like.

Abstract Published.

153758—McLean, D., Blyth, Northumberland.—Walls, roofs. In sections for building purposes of the type comprising wooden or like frames which form a core or support for reinforced cement walls, expanded metal is fixed to the face or faces of the frame and plastic material is applied to both sides, and the sections are bolted or fastened together with strips of felt, etc., placed in the joints. Fig. 1 shows a section provided with pockets E which are left uncovered by the expanded metal C to enable the bolts D to be manipulated. In cases where the section comprises both the inner and outer walls, it is made in two parts, as shown in Fig. 6; a small frame H provided with expanded metal J coated on both sides with plastic material R being attached to the larger frame. N represents the strip of felt and O the bolt. For roofs, sections with a single face are employed, the small frame H being dispensed with. When the adjacent sections are bolted together, the faces of the joints are covered by strips Q of expanded metal. Fig. 7 shows a jig for manufacturing the sections, hinged sides U being kept in position by blocks T. The wooden frame of the section is assembled in the jig and an expanded metal sheet secured thereto and faced with plastic materials.

FIG. 7.

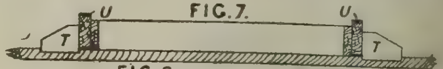


FIG. 6.

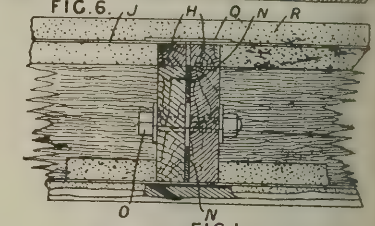
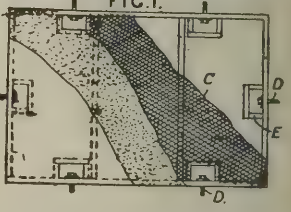


FIG. 1.

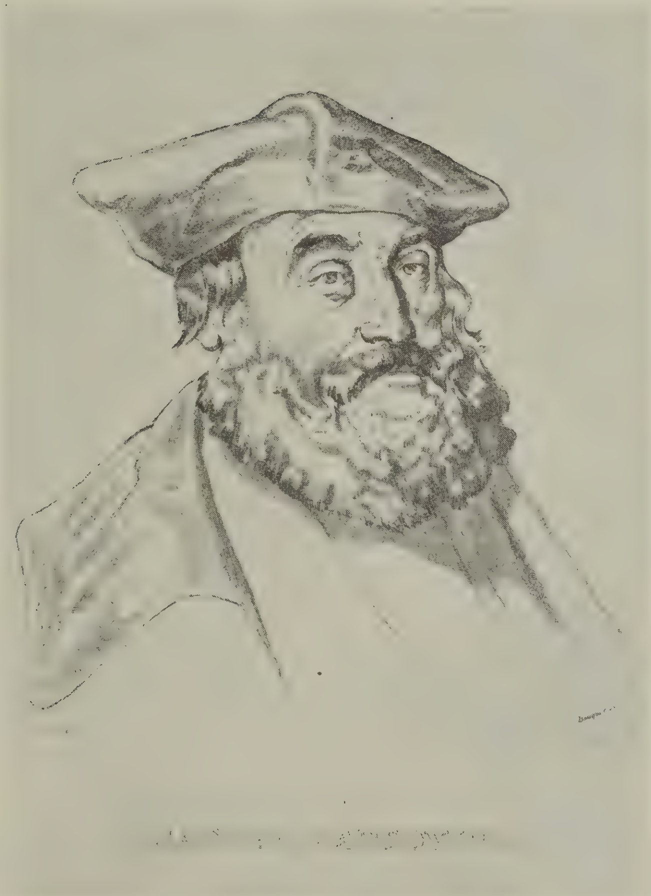


The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, W.C.2, from whom readers of this journal may obtain all information free relating to patents, designs, and trade marks. Messrs. Rayner and Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1s. each.

Wednesday, February 16, 1921 Volume LIII. No. 1363

THE ARCHITECTS' JOURNAL & Architectural Engineer

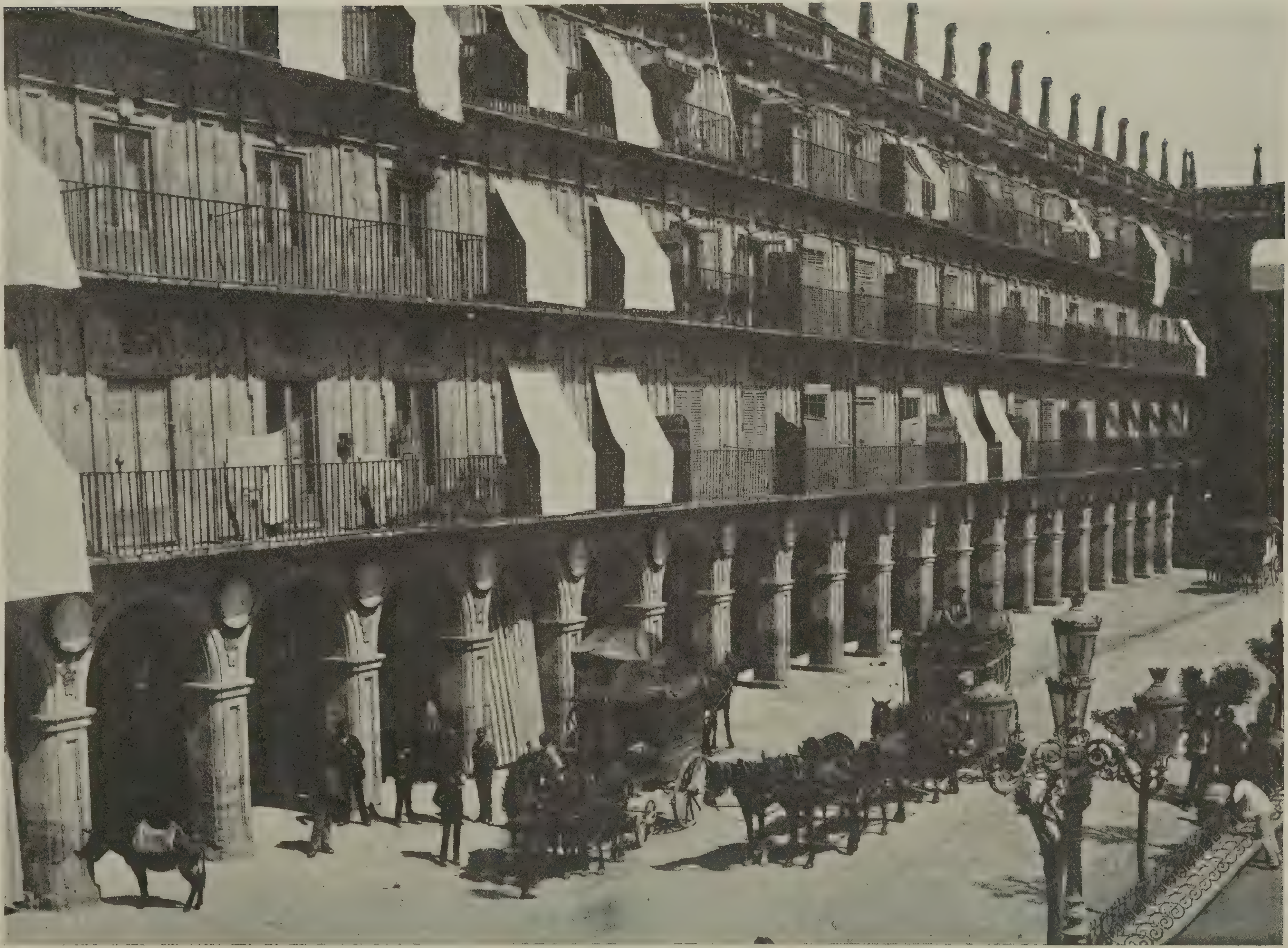
With which is incorporated "The Builders' Journal"



Jacopo Tatti Sansovino, sculptor, artist, and architect (1479-1570), was born at Florence. He exchanged his surname for that of his master, Andrea Contucci da Monte Sansovino. Produced his "Bacchus" at Florence and designed a number of buildings in Venice, including the Palazzo Cornaro a San Maurizio, San Francesco della Vigna, the Mint, Public Library, etc.

27-29 Tothill Street, Westminster, S.W. 1.

The Plaza Mayor, Salamanca



This restrained example of the Spanish Renaissance dates from the early eighteenth century. The continuous balconies are not the least pleasant feature of the façade, which, like the famed Uffizi at Florence, gains effect from their repetition. The arcade below forms a splendid foil. In this design are to be seen features recalling domestic motifs peculiar to European countries during the last three centuries—from the galleried yard of the old-time inn to the balcony railings of Paris.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, February 16, 1921 Volume LIII. No. 1363

Notes and Comments

The State and the Building Industry

LAST Thursday and Friday, Ministers met in conference certain representative building trades employers. Having failed to get the trades unions to agree to dilution, the Government are now seeing whether it is possible to obtain the assistance of employers in the scheme for setting to work on housing some fifty thousand unemployed ex-Service men. Thus the situation has assumed the complexion of a tragic farce. At the first meeting, a seal of secrecy was imposed on the employers' representatives, who, however, without disclosing the details of the scheme which the Government unfolded to them, let it be known outside that they had asked for time in which to consider the scheme in all its bearings. But up to the time of going to press no decision had been announced. In thus endeavouring to enlist the employers on their side, the Government have placed themselves, as well as the organised master-builders, in an invidious position. Government, which should maintain a strictly neutral attitude between employers and employed, has coquetted as if with a view to alliance first with the one party and then with the other, to the ultimate disgust of both; and its latest conference with the employers would, if it were successful, have the result of widening the breach between employers and operatives. While it is true that the latter could have no shadow of excuse for resenting any step the employers may choose to take towards helping the Government to employ ex-Service men as builders, it is no less certain that any such aid that employing builders render the Government will enrage the unions and probably provoke unpleasant reprisals. Supposing the employers consented to give the help the Government require, that action would be bitterly resented as an invasion of the rights of the operatives, notwithstanding the fact that the operatives had themselves set a glaring example of poaching when they established guilds and leagues for building. "Tit for tat" is nearly always a poor sort of policy, and the organised employers may well leave reprisal to a Government that has occasionally "shown temper" at the failure of its negotiations with the trade unions. On the other hand, Government never had any cause to fear that its violent flirtations with Labour would be actively resented by the organised employers, who are not obsessed by the sullen and cynical temper of the operatives, and who, so far from objecting to the employment of ex-Service men in building, have seemed rather to encourage the idea, knowing well how great was the need to augment the ranks of building-trade labour, and being free from promptings by the instinct of self-preservation to suppress their humane compassion for the unhoused and the unemployed. It would, however, be flattery to say that the Government have shown consummate craft in dealing with building-trade difficulties. They have, indeed, mismanaged them very badly. In their endeavours to find work for the men who have fought for their country, and in their even more strenuous attempts to provide "homes for heroes," they have, as a matter of sentiment, our fullest sympathy; but that fact does not commit us to uncritical approval of the methods they have employed to secure those objects. In spite of the ability with which these methods have been conducted, they have failed so signally at every turn as to make inevitable the conviction that the methods must be wrong in principle. That, indeed, is what at the outset was by many conceived to be the case. In interfering with the building industry, Government not only undertook tasks which it was wholly incompetent to perform: it mixed up politics and building in most deplorable fashion; and the example has been quickly followed. Bureaucratic methods which were expedient in wartime should have been abandoned as soon as the occasion for them had ceased, and by this time both the Government and the building industry would have been relieved of most of the worries and difficulties which perplex them both. Government would have been the more free to prosecute home legislation and foreign diplomacy, and the building industry—one of the largest in the country, and the one on which all the others rest—unfettered by ignorant and meddlesome control, would have been able to contribute prodigiously towards the general prosperity for which the need is hourly growing more acute and more dangerous.

The Architect's Office

In Mr. Simpson's address at the R.I.B.A. prize-giving, there was what he called a "digression" on a subject on which we have long held decided views, with which we are glad to note that Mr. Simpson is in agreement. He holds that the architect's office—"that, at any rate, in which you receive your patrons—like everything else you create, will be in some sort a portrait of yourself. See that it be a pleasing one." We are afraid he is irrefragable in his assertion that "for the most part it resembles a second-rate solicitor involved in building speculations," and we are absolutely certain he is unassailable in the advice that "Your office should have its distinctive atmosphere, congenial to a cultured client." Equally sound is the further advice: "I would hardly commend perspective views for decorative purposes, or even for advertisement. Hang rather a few fine photographs of the great buildings of all time, which can be discussed with interest; little of your own work, and that carefully selected of your very best. If you bear this in mind, the latter will be pretty frequently changed." The delightful subtlety of this last hint will not be wasted on those who are determined that the quality of their own work shall be so continuously progressive that the later examples shall be much better worth looking at than the earlier; and there are other respects in which the recommendation is of distinctly practical value. Although old photographs of buildings never look as stale in subject as old fashion-plates, the complexion of the former is apt to betray their age, and therefore to convey to the recurring client the ghastly suggestion that there is no new work worth showing.

This observation clearly does not apply to the "fine photographs of the great buildings of all time, which can be discussed with interest." Their complexion may be as lasting as their glory, if they are not actual photographs (which in time grow very faint), but are reproductions of them by one or other of the several beautiful printing processes that invest the image with absolute permanency.

Sir Robert Lorimer, A.R.S.A.

It is with unalloyed pleasure that the election of Sir Robert Lorimer to an Associateship of the Royal Scottish Academy will be noted. No living architect has advanced more irrefragable proofs that he is also an artist. His position in the art world would have been firmly established by his general practice—his stately domestic work, as in the mansion at Ardkinglas, and that of Rowallan, in Ayrshire; his fine ecclesiastical work, as at St. Peter's, Edinburgh; and the woodwork in a large number of churches; even if, in adding the Chapel of the Knights of the Thistle to St. Giles's Cathedral in Edinburgh, he had not given supreme proof of his consummate mastery of his own art of architecture, and, moreover, of his familiarity with the minor arts—of the wood-carver's, the enameller's, and the heraldic painter's, for example —the *ensemble* of the chapel being of itself a rich gem of art. Scotland, so far as her Academy is concerned, has been rather tardy in thus honouring the talent of this her son, the English Academy having conferred upon him a similar distinction several months ago.

Clean Cities in a Coal-less World

Engineers, though not good architects, are great optimists. One of their number—the "Engineering Correspondent" of the "Daily Telegraph"—confesses to a spasm of imagination. When, he says, we look back to the age when bare hands, a rope, and simple levers were a complete engineering outfit, and then turn to contemplate the present-day perfection of mechanical devices, "a natural feeling of pride comes over us, and we often proceed to imagine the progress that will be made after our time, when well-designed, clean cities will take the place of our jig-saw accretions, and the prosperous, happy citizens will have all their requirements of comfort and necessity silently and efficiently supplied by super-machines." This is all to materialise through the invention of more effective means for the transformation of energy into convenient forms. We have to wait, it seems, for the discovery of "the great secret of controlling atomic energy." When that is revealed, we shall be independent, it may be supposed, of the energy that is stored in coal and is released by burning. But the "well-designed, clean cities" need not be postponed, and the "jig-saw accretions" need not endure, until men of science have discovered some efficient means of coaxing or coercing the mighty atom into releasing its jealously hoarded energy for service in the builder's yard or elsewhere. Town-planning and good building might prosper well enough on the coal-supply were that more rationally regulated with respect to economy and smoke-abatement. Builders complain bitterly of the cost of power derived from coal, while with architects the disfigurement of their buildings by smoke is a grievance as old as the fabric of St. Paul's. These points are, after all, of more immediate and, at present, of more practical importance than the potentialities of divided atoms, and the invention of coal-saving and smoke-consuming devices, and the striving after clean cities, should go on as if coal-less supply of energy were no more than a dream that may possibly be realised a century hence. Towards the solution of these problems gas-fired apparatus have gone a long way, and may be confidently expected to go still farther.

A Garden City for Bureaucrats

It is stated by the extremely well-informed London correspondent of the "Manchester Guardian" that several of the smaller Government departments have been during the past few weeks searching in Essex and in Buckinghamshire "for suitable buildings in which to carry on their activities." Simultaneously we hear that the huts which disfigure some of the parks—more particularly St. James's Park—are about to be demolished. Is there any close connection between these two exciting items of news? It will certainly be a great relief to get rid of the excrescences in the parks; but the suggestion by the Garden Cities and Town-planning Association (noted by our contemporary) that the Civil Service clerks doing routine work shall be housed in a garden city appropriated to them is rather uninspiring. Mentally we figure the Civil Service routine clerk as a highly specialised type of the *genus homo*, and the prospect of having to fit him with a suitable environment does not greatly stimulate art, howsoever much it may be supposed to connote the middle-class "respectability" which Bohemians scorn as inimical to it.

The President at the Prize-giving

The President's address at the R.I.B.A. prize-giving, printed in last week's issue of this Journal, is certainly to be accounted among the happiest deliverances on an occasion which seems peculiarly inspiring to Presidents. For them it is a renewal of their youth. It warrants their becoming reminiscent and advisory, two exceedingly copious well-springs of eloquence; and the marvel is that the reminiscences are seldom or never dull, and that the advice is hardly ever destitute of the saving salt of humour. Being singularly rich in that fine gift, as well as in a sort of Gallic lightness of touch and gaiety of outlook, Mr. John W. Simpson had no difficulty in making his advice palatable as well as nourishing, grateful and comforting as well as didactic. He avoided prosy preaching, being aware of its devastating dullness. Nevertheless, he conveyed, in light and airy style, certain hints for which many of his hearers will remain perennially grateful. In particular, his practical observations, drawn from his own large experience first as a competitor and afterwards as assessor, will become part of the mental storage of all his hearers and of most of the much wider public who will have read his address in the professional papers. It is gratifying to reflect that these prize-giving addresses have in so few instances out of the grand total failed to reach the general high standard of interest and usefulness which is maintained in Mr. Simpson's address.

Technical Education

Dean Inge, speaking to students of the City of London College, said a word that will set parents wondering. When he heard, he said, of the excellent machinery and of the steady hard work done at such institutions, he wondered if it were wise to send boys to the old public schools instead of to one of those modern technical colleges. Yet "every one had had a feeling of affection for the old public-school system, and he hoped that these new and vigorous institutions would infuse more energy and a serious view of life into the boys of our public schools." In this wise and diplomatic utterance the Dean shows the true way of handling a somewhat delicate subject. Our public schools prosper because they have centuries of tradition behind them; but in these hard times sentiment, as the Dean undoubtedly recognises, must in very many instances give way to stern practicality. A good beginning, which may be made without doing any sort of violence to public-school traditions, would be to introduce a more intensive study of architecture, which would be quite appropriate to the most venerable halls.

The Rome Scholarship Competition Designs

By STANLEY C. RAMSEY, F.R.I.B.A.

"SUBJECT for Open Competition:—A National Pantheon to be erected in a lake of 1,000 acres and to be approached by a causeway designed so that a funeral car can be rolled into the building and will stand in the centre of the building under the dome. The object of the Pantheon is to give equality of record, irrespective of all creeds, to the names of those who have rendered great service to the Empire. The ground surrounding the lake is park-like and featureless, save for the ancient trees and a great avenue terminating on the shore of the lake. A sketch design for the funeral car is optional."

The above is an extract from the scheme of competition for the Rome Scholarship in Architecture, the reading of which arouses slightly uneasy feelings that a more detailed study of the actual conditions set the competitors does nothing to allay. To an outsider viewing things as they are presented to him, the competition appears to be as wrong in conception as in the detailed conditions.

These gigantic strainers, representing months of laborious work, are the designs submitted for the first round only, the selected competitors being required to submit to another fiery ordeal in the nature of a competition "en loge."

Surely this is something of an anti-climax, the result being, as has been proved in previous competitions for this prize, that the actual winning design is immeasurably inferior to that submitted by the same competitor in the preliminary stage. It would seem that all that is required in the first stage would be sketch designs sufficient for the purpose of selecting those who were to compete for the scholarship; this should be sufficient to commit each student to a definite programme, which would then be developed with all the ardour and enthusiasm of which he was capable in the final test.

So much for the inception of the competition—now for the detailed conditions.

The subject is a national Pantheon, that is, a building associated with the intimate life of a nation, a building in which the nation can pay honour to its great men.

It would be thought that such a building would naturally find its position either at the centre of, or in close relation to, the capital city of such a nation, as is the case at Rome and Paris, where the shrines of the famous dead are surrounded by the vast multitudes of those who inhabit or visit these places.

But the conditions as set out for this competition would seem to envisage an entirely different conception of what a Pantheon should be.

It is to be erected in a lake of 1,000 acres (a feature not usually found in the centres of great cities!) and "the ground surrounding the lake is 'park-like and featureless,' save for the ancient trees, and the great avenue terminating on the shore of the lake."

Reference is also made to a Park Establishment, so that presumably the lake is situated in a park, and not, as the words "park-like and featureless" suggest, in the open country, and rather distant country at that. If it is meant that the site is in a park, why do not the conditions state this clearly, instead of referring to "park-like"?

Except for the reference to the "Park Establishment," the situation would appear to be remote and inaccessible in a desolate flat country, more fitted for some great monumental tomb than for a Pantheon.

One wonders whether the Cenotaph in Whitehall would have captured the popular imagination in the way that it has if it had been erected in some vast featureless park!

With these conditions it is instructive to turn to the actual designs submitted. The competition this year is particularly interesting as it has resulted in a duel between two schools—the Architectural Association and the Liverpool School of Architecture. These two schools have given two distinct and different solutions. The Architectural Association's solution is a magnificent tomb, which is a logical interpretation of the conditions, but it is not a Pantheon. The Liverpool School of Architecture has produced the Pantheon, with all its sense of civic dignity and human interest, but, as forced by the conditions, has placed it on the aforesaid "featureless" tract.

In the result the honours are equally divided by the two schools, as three men from each have been selected for the final test, the seventh competitor being a student of the A.A. Atelier, and therefore in rather a different category.

This competitor (Mr. Roland Pierce, Design No. 22) appears to have chosen a "via media" between the two rival solutions, but his solution is at the best a compromise. He has conceived a tomb-like mass, and clothed it with civic trappings. The plan and section are well thought out, but the elevation lacks coherence, and clearly shows the confusion wrought upon the author by the bewildering character of the "conditions." The designs sent in by the Architectural Association show a remarkable unanimity of agreement amongst the three selected competitors from this school, in their choice of treatment, with a well-considered plan and section, it is their buildings are all tombs, sad, remote, and inaccessible.

Mr. Edward W. Armstrong's design (No. 26) is a splendid and magnificent tomb. Very dignified in treatment, with a well-considered plan and section it is probably (admitting the Architectural Association's solution to be the correct one) the most convincing of all the designs submitted.

Mr. Bernard George's (Design No. 30) lay-out is very similar in idea and treatment to Mr. Armstrong's, the main difference in the plans being that Mr. George provides for a series of seven great niches in place of the ambulatory shown by Mr. Armstrong.

The section, particularly as regards the treatment of the dome, is a little thin for such a monumental conception, whilst the elevations are a severer and simplified edition of Mr. Armstrong's design.

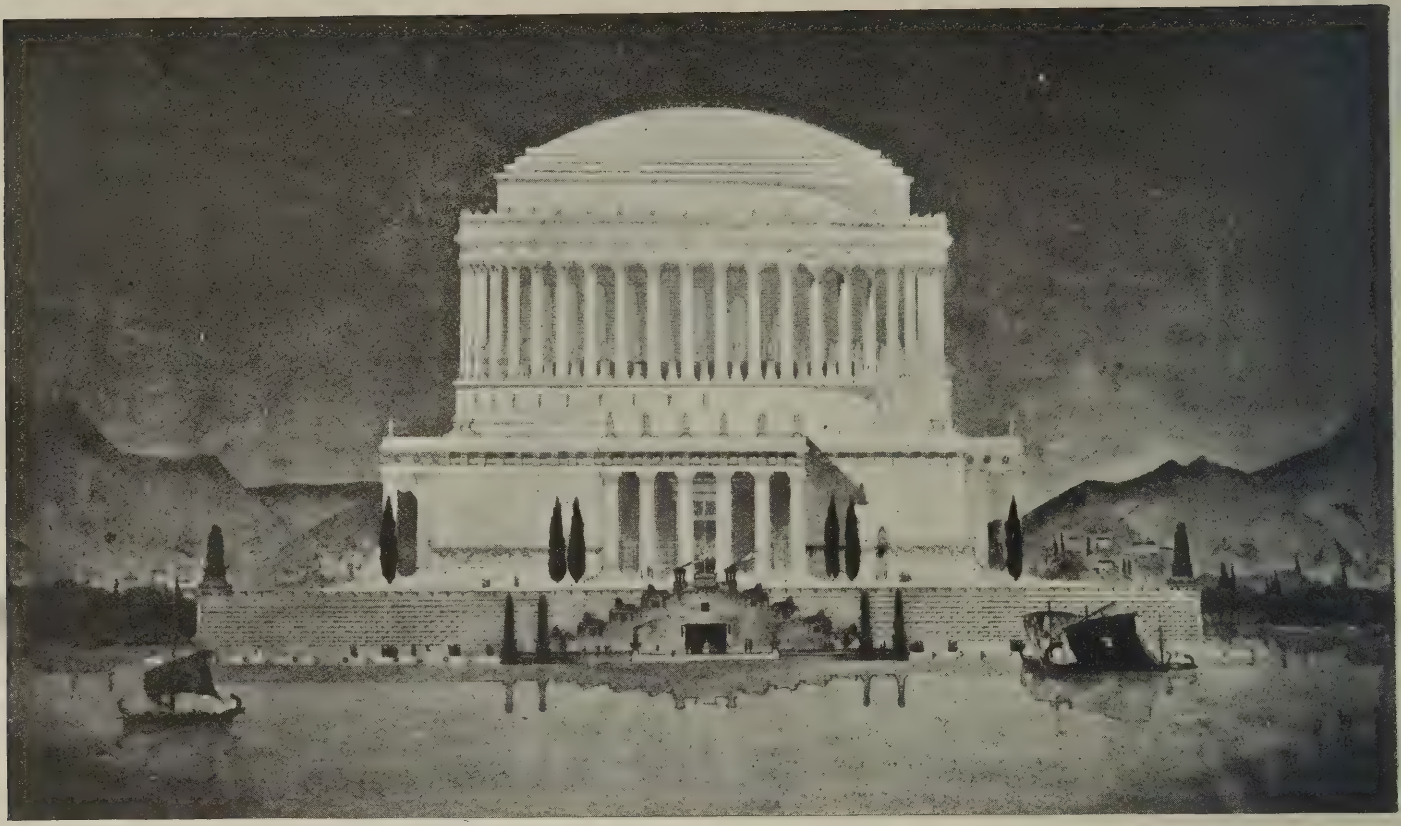
Mr. James H. White (Design No. 34), the third of the Architectural Association students to win a place, presents us with a design which in the uncompromising severity of its exterior with the awe-inspiring "gate of death," might well stand for the architectural representation of all the tombs of history—it is, indeed, a tomb of tombs. The fenestration has been reduced to the minimum, and it is doubtful if there would be sufficient light to show the paintings which decorate the interior.

It is something of a relief to turn from these chill and somewhat depressing though dignified monuments to the more human interpretations submitted by the Liverpool School of Architecture.

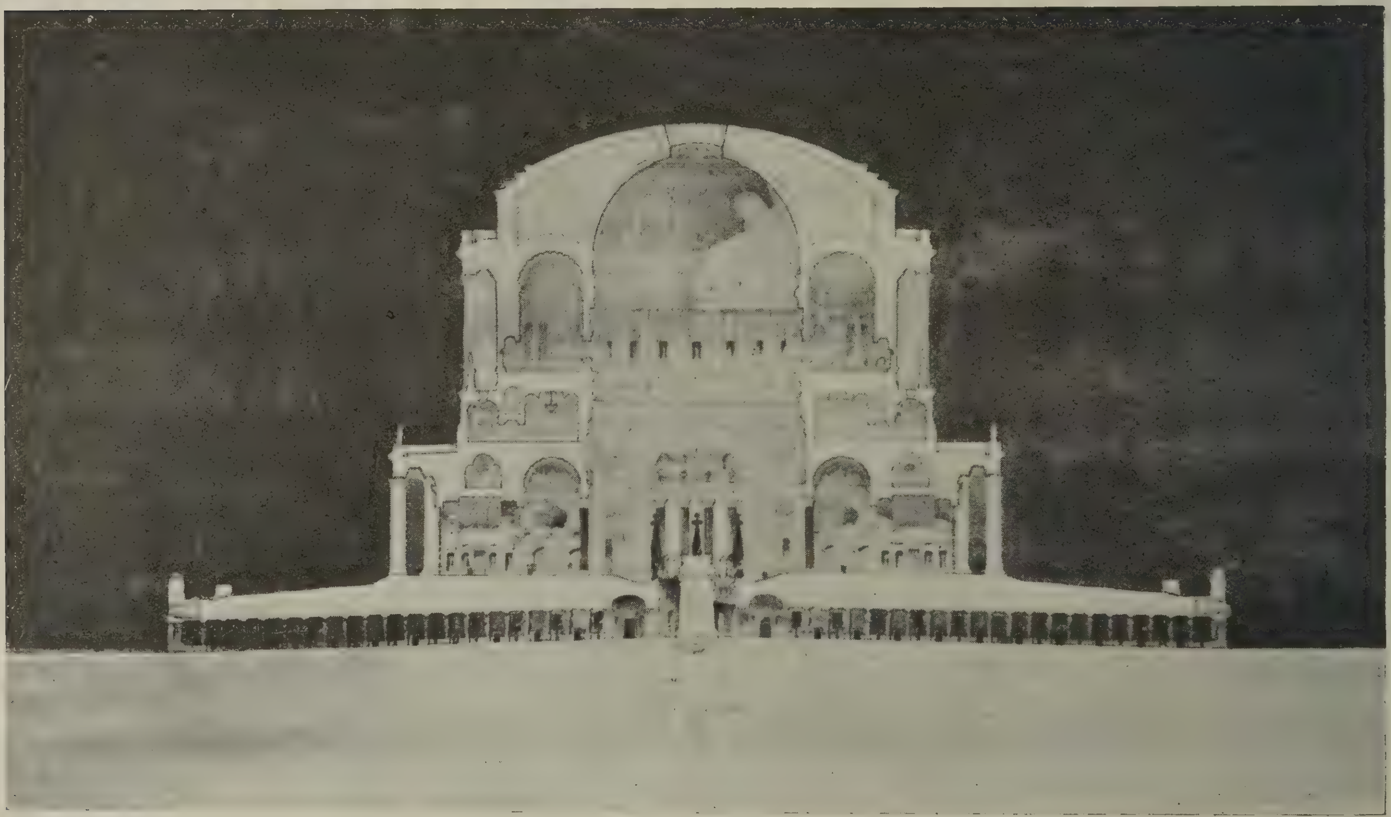
Here we have dignified civic architecture, rich with human associations, such as is fitting for great national buildings suitable for erection in capital cities, but a little out of place in "flat park-like country," surrounded by desolating water and approached by an avenue of "ancient" trees.

Mr. Eric Arthur's design, No. 24, satisfies more than any of the others one's pre-conceived notion of what a Pantheon should be.

(*Continued on page* 179.)

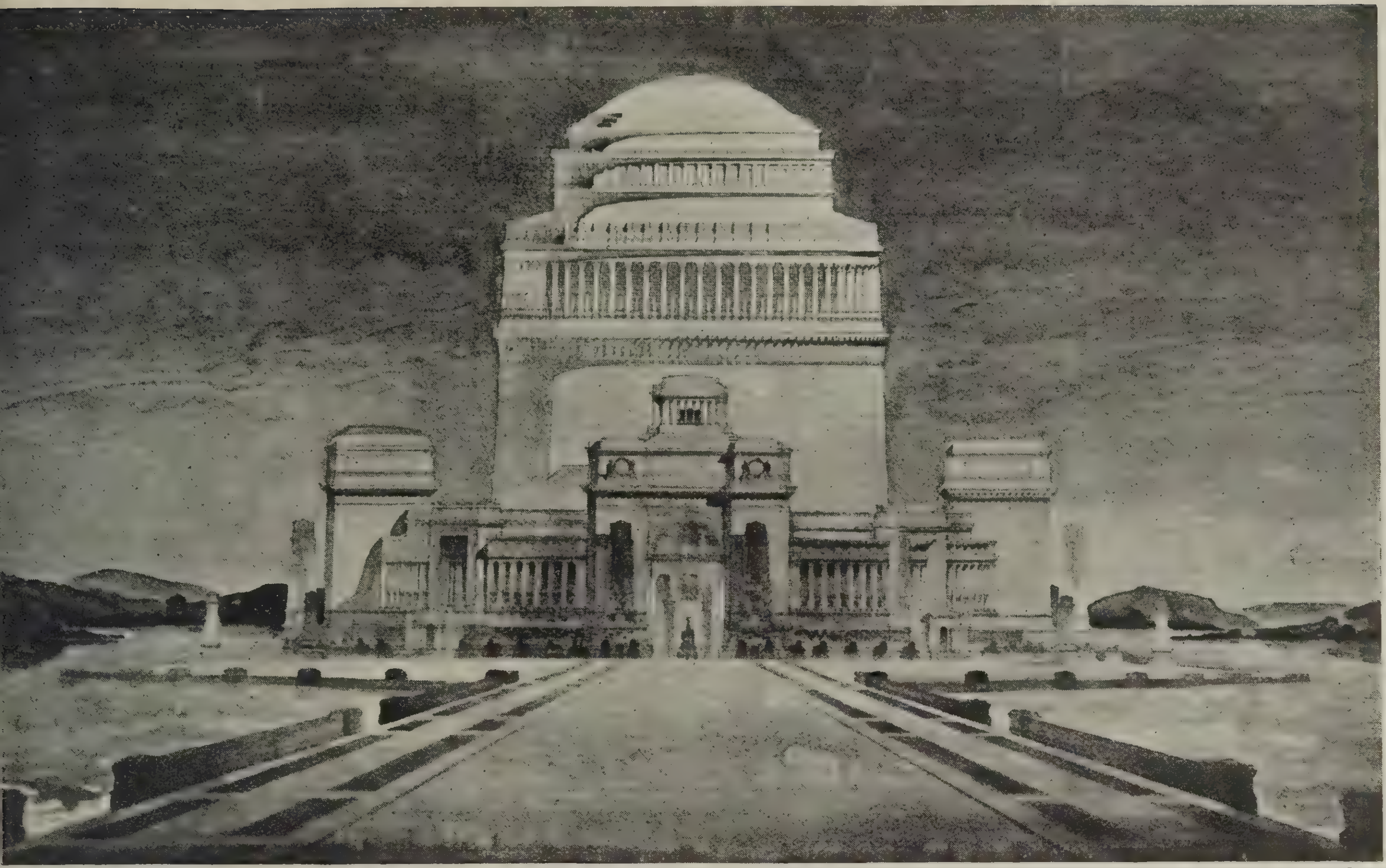


Elevation.

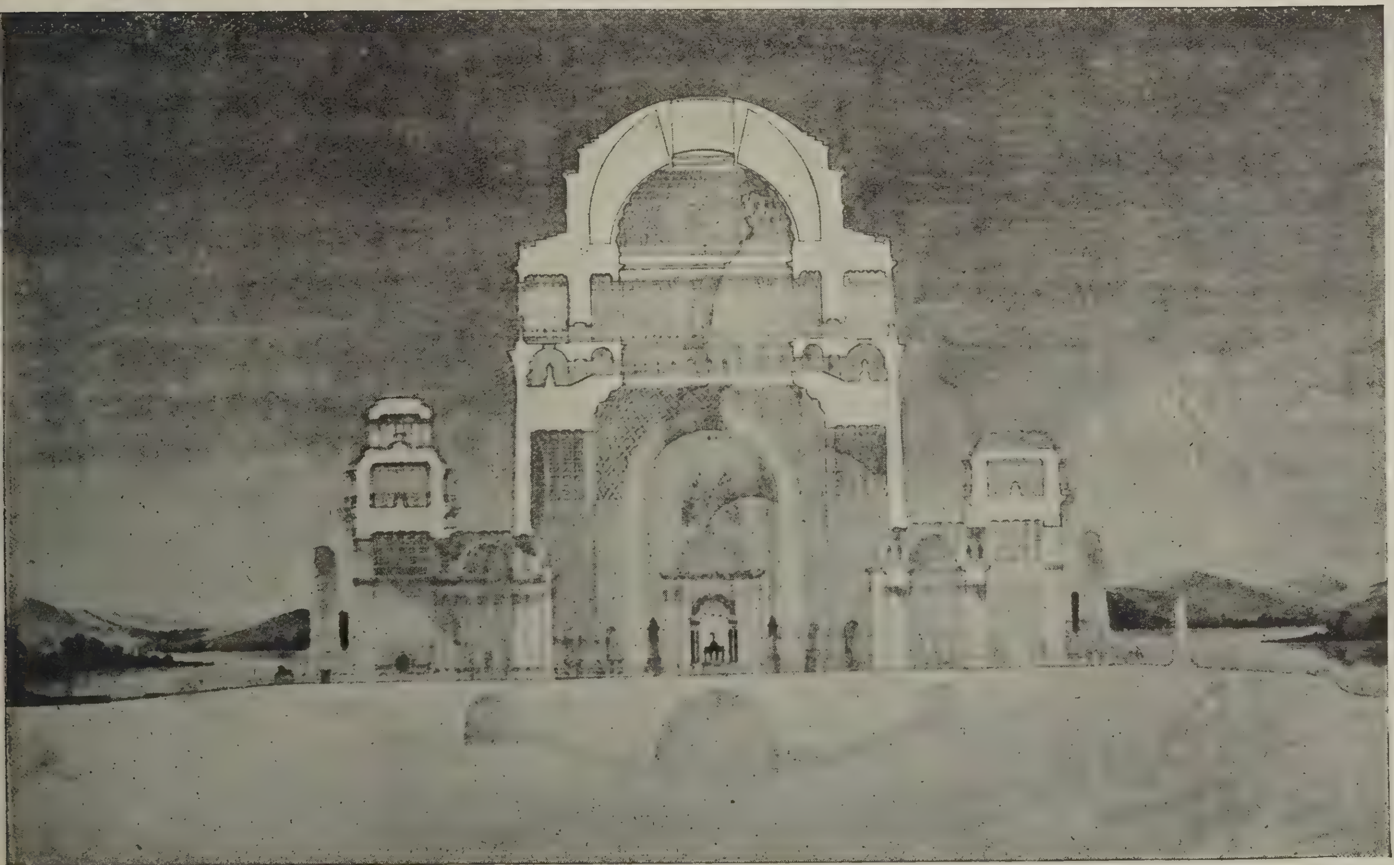


Section.

PRIX DE ROME COMPETITION IN ARCHITECTURE: DESIGN SELECTED FOR FINAL COMPETITION. BY E. R. ARTHUR (LIVERPOOL SCHOOL OF ARCHITECTURE).

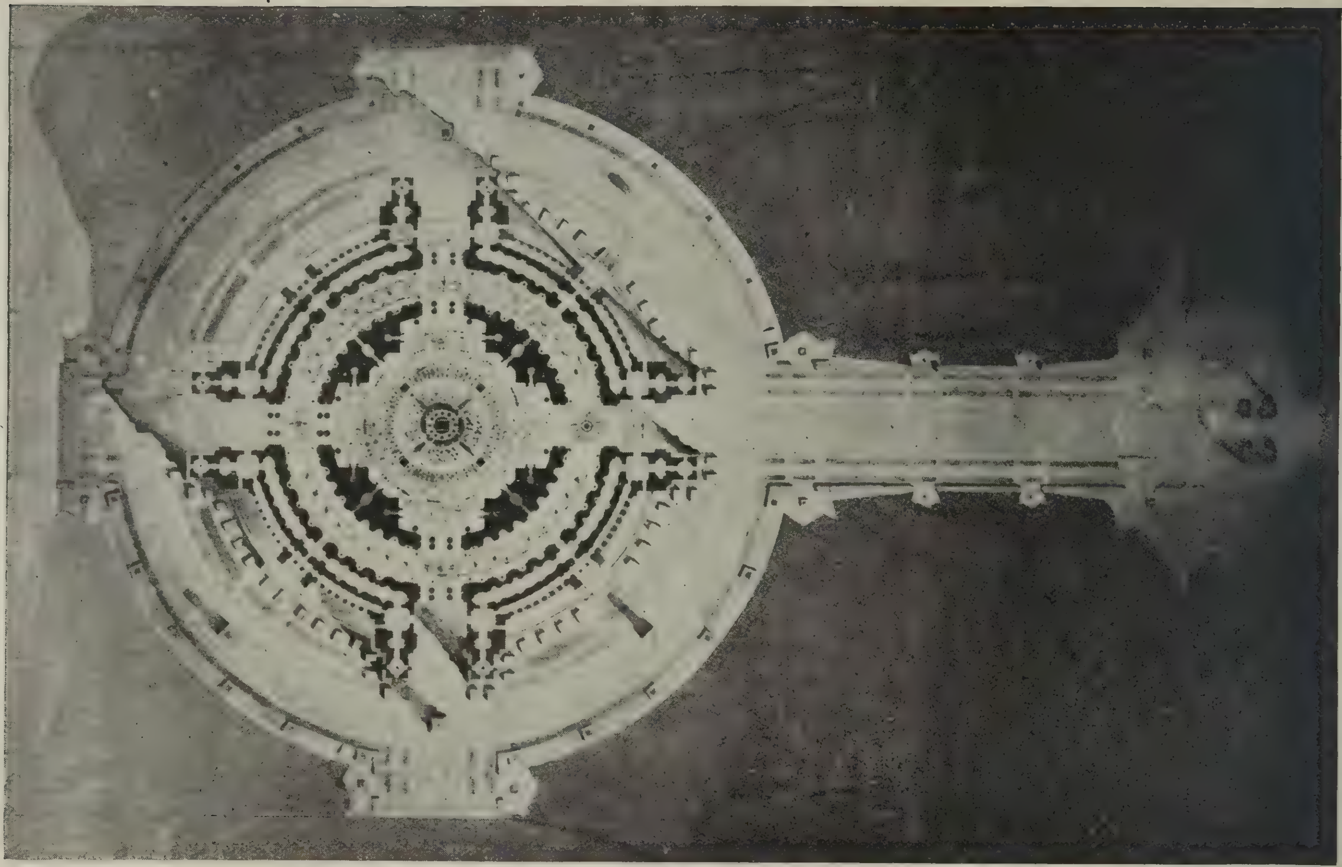


Elevation.

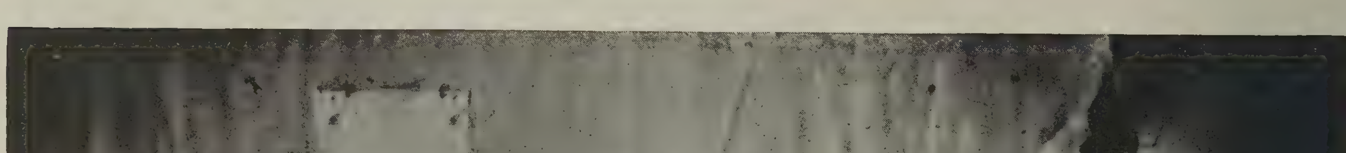


Section.

PRIX DE ROME COMPETITION IN ARCHITECTURE: DESIGN SELECTED FOR FINAL COMPETITION.
BY W. J. H. GREGORY (LIVERPOOL SCHOOL OF ARCHITECTURE).



By W. J. H. Gregory (Liverpool School of Architecture).



By E. R. Arthur (Liverpool School of Architecture).

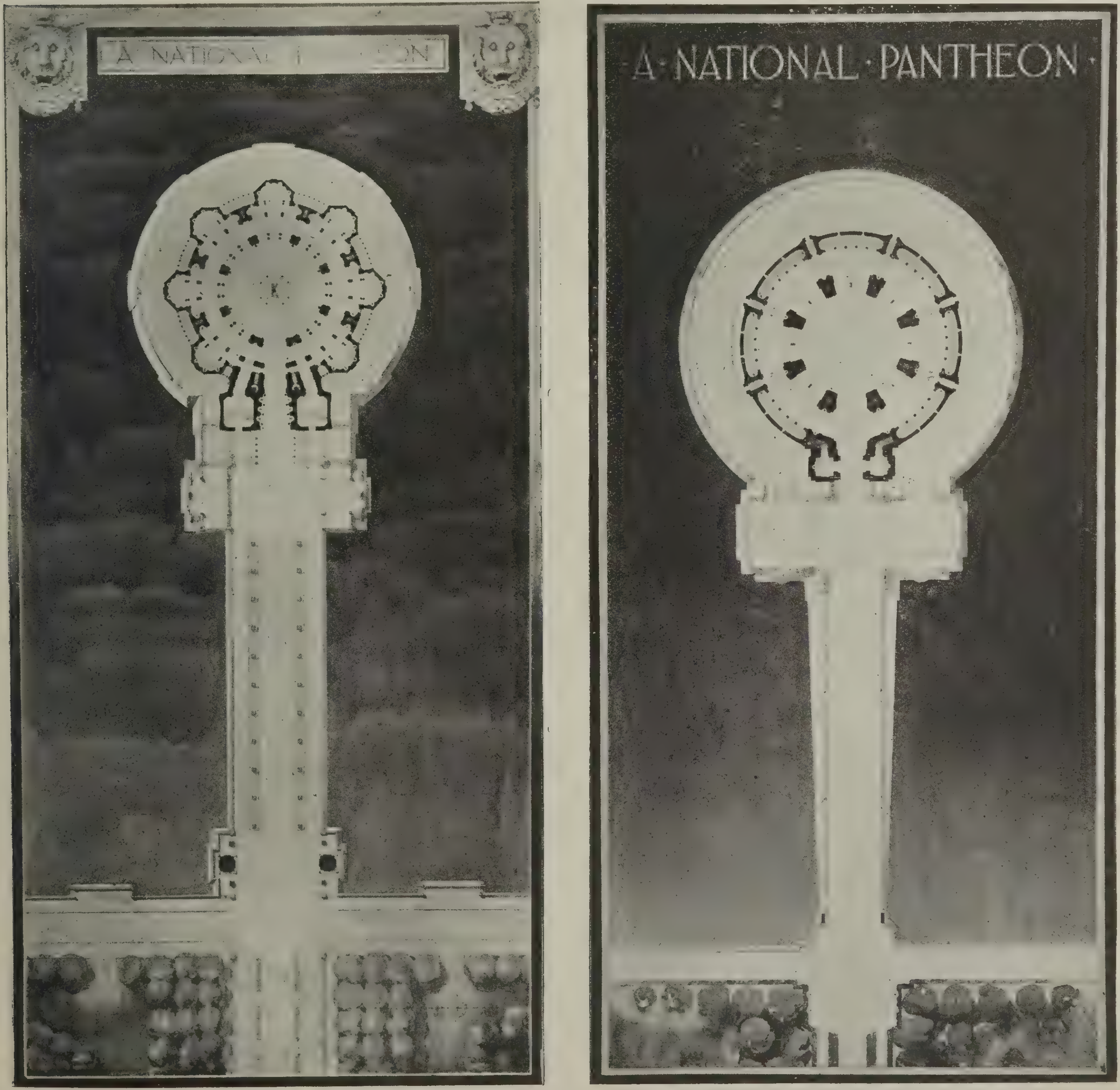
PRIX DE ROME COMPETITION IN ARCHITECTURE: PLANS OF DESIGNS SELECTED FOR FINAL COMPETITION.

His large circular temple, with its dignified peristyle of Corinthian columns, amply supported on a square sub-structure, is a fine conception, despite the rather weak section, presented in a series of magnificent drawings. This design, in common with those of his two colleagues, shows the main building approached by a great processional way in place of the narrow causeway which is the interpretation of the approach given by the students of the rival school. Mr. William Gregory (Design 29) probably owes his place to his fine conception of the plan; it is doubtful if the exaggerated height of the central mass of his building would carry conviction in execution. His section is well-thought out and workmanlike, but his detailed drawing is disappointingly weak.

The note of Mr. Bernard Miller's design (No. 31), is one of masterful assurance; he appears to dominate his great conception with an easy and matured skill, very remarkable in a student. His plan is probably the finest piece of imaginative composition in the exhibition, the section is well-modelled and evinces again that surprising note of maturity—though it is doubtful whether his treatment of the double dome is quite permissible.

A "Hall of Fame" deserves a more considered place in the scheme than in the outer dome, the visible and architectural approach to which is apparently by air through the main ceiling. The real failure of this competitor is, however, in his treatment of the elevations. Of the unplaced competitors the authors of designs Nos. 17 and 32 deserve especial notice. These designs are well-thought out, scholarly in detail, and charmingly presented. The weakness of both is the same, the severance between the dome and the sub-structure is too complete.

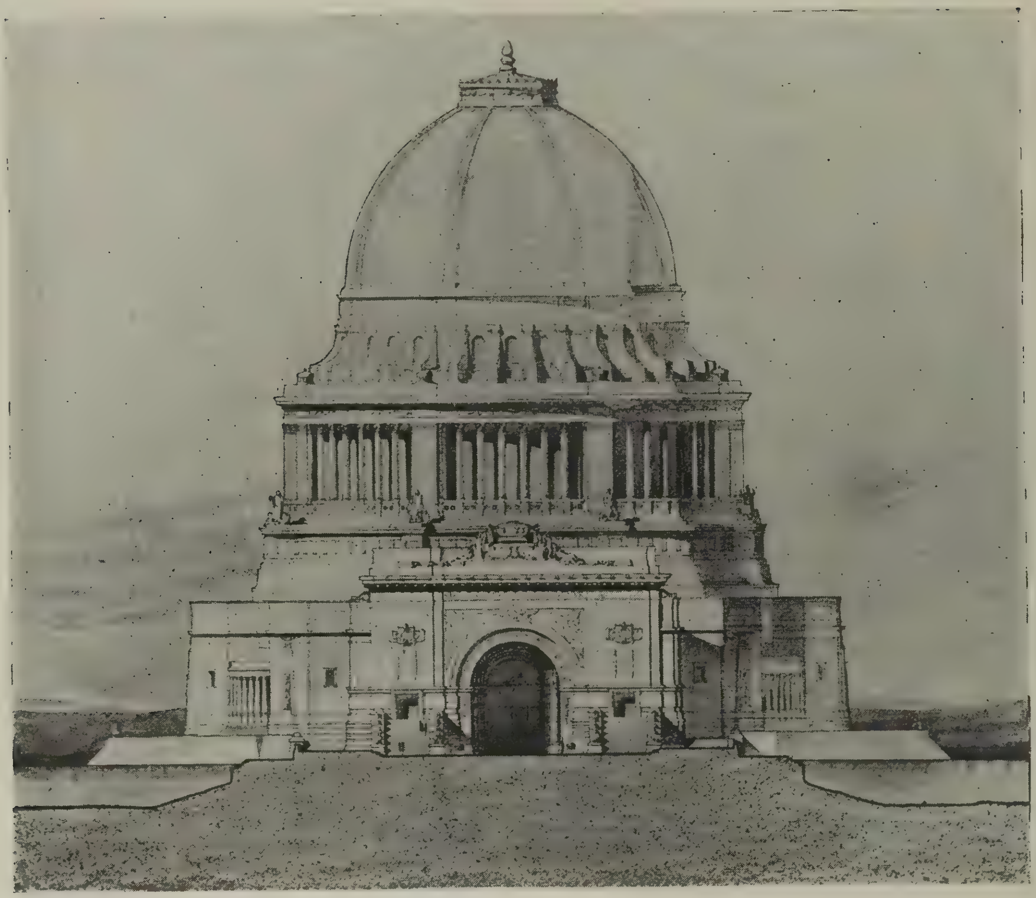
With one or two exceptions the standard of all the schemes submitted is extraordinarily high, both as regards design and draughtsmanship, and one approaches the task of criticism with a great humility, but with a very fervent and appreciative sense of what has been accomplished.



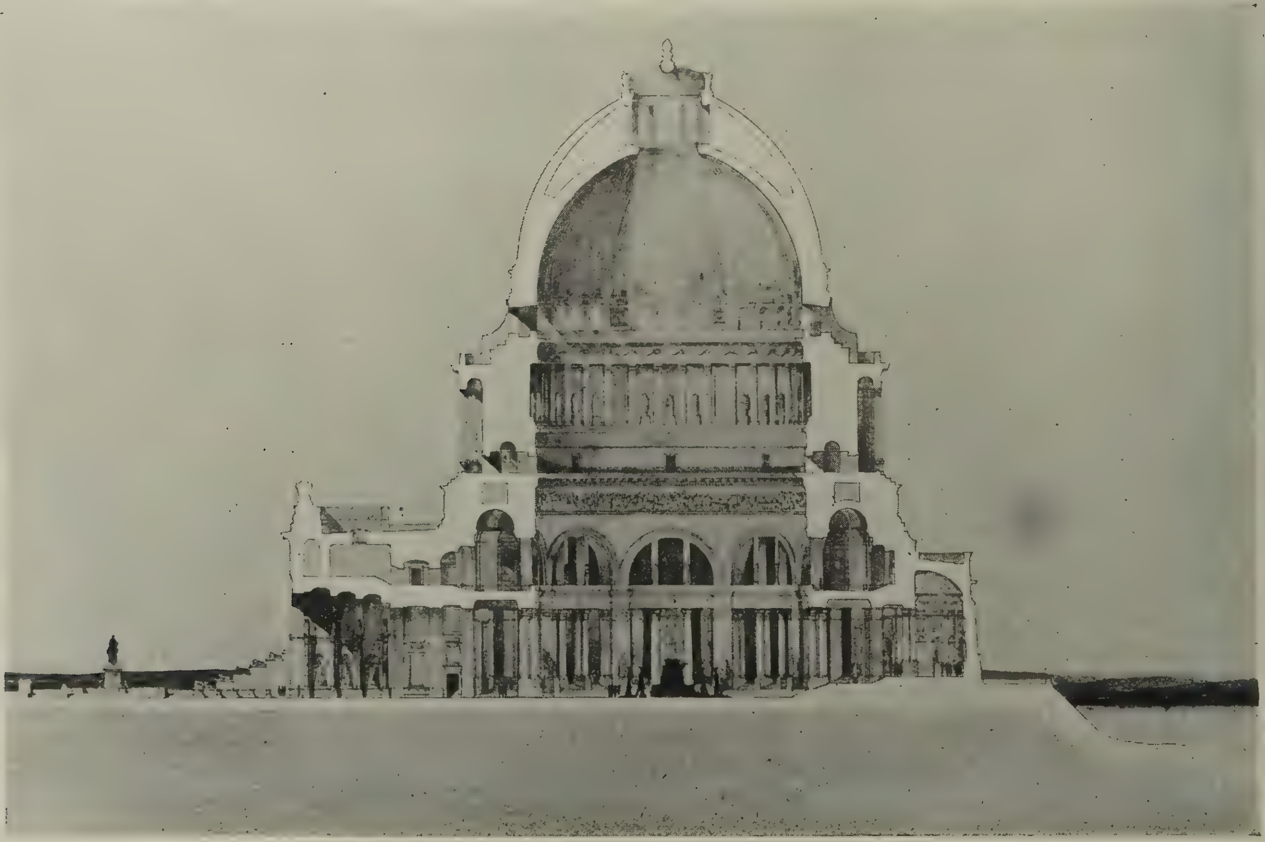
By S. Roland Pierce (Architectural Association Atelier).

By Edward W. Armstrong (Architectural Association).

PRIX DE ROME COMPETITION IN ARCHITECTURE: PLANS OF DESIGNS SELECTED FOR FINAL COMPETITION.

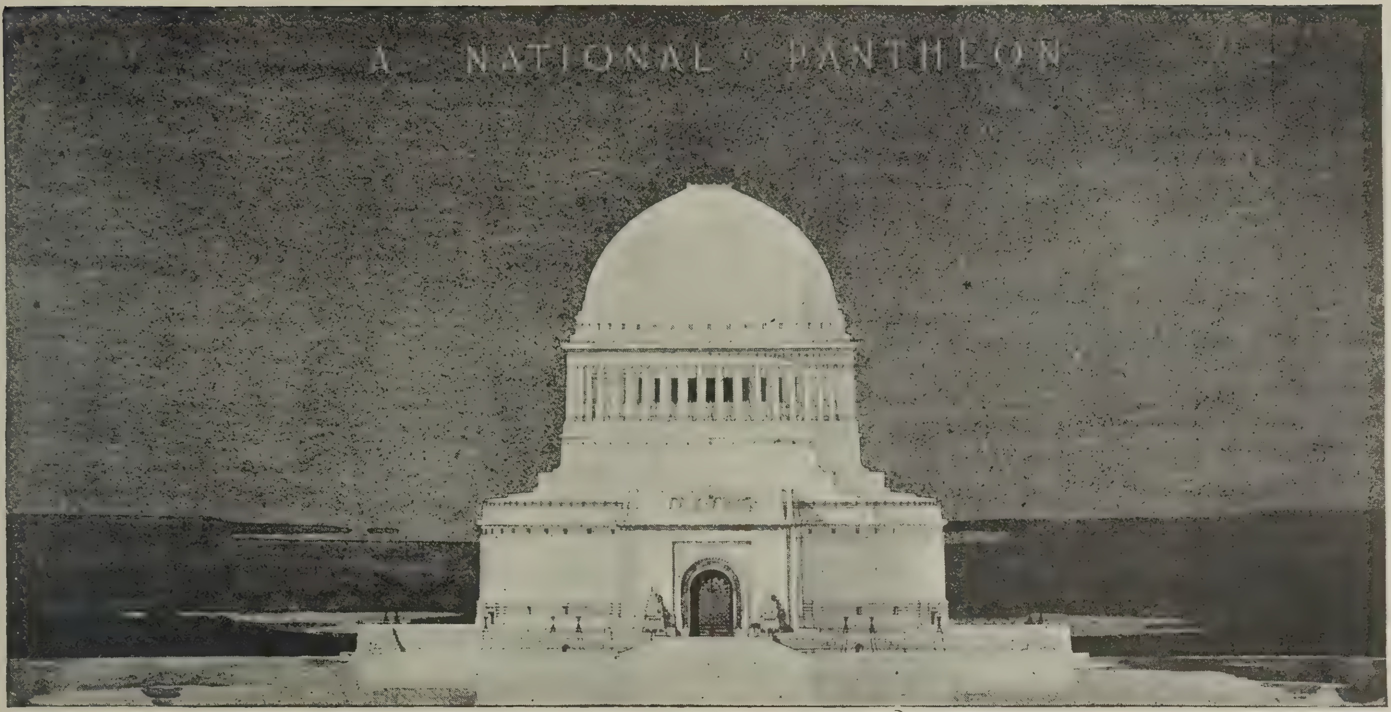


Elevation.

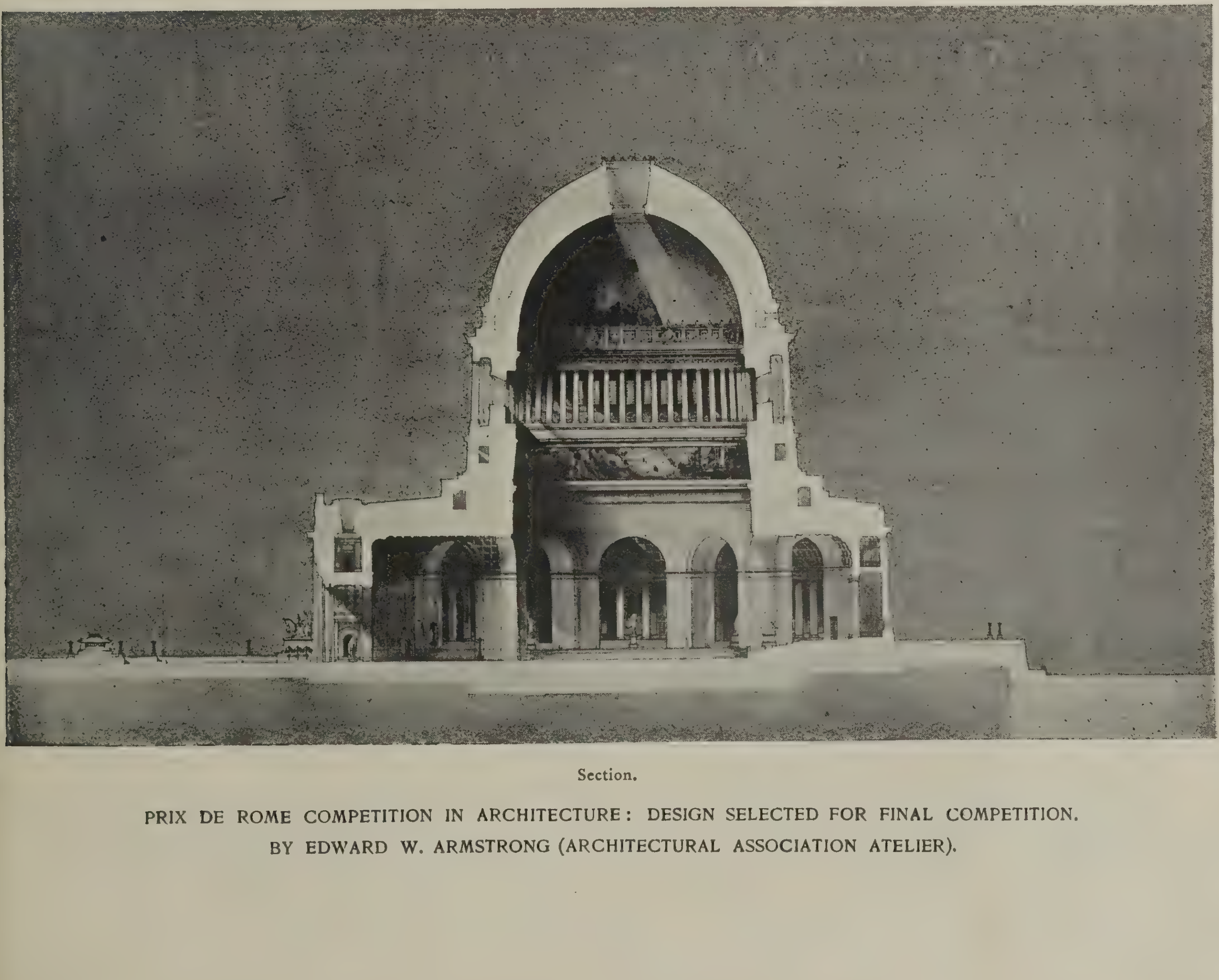


Section.

PRIX DE ROME COMPETITION IN ARCHITECTURE: DESIGN SELECTED FOR FINAL COMPETITION.
BY S. ROLAND PIERCE (ARCHITECTURAL ASSOCIATION ATELIER).



Elevation.



Section.

PRIX DE ROME COMPETITION IN ARCHITECTURE: DESIGN SELECTED FOR FINAL COMPETITION.
BY EDWARD W. ARMSTRONG (ARCHITECTURAL ASSOCIATION ATELIER).

Architectural Causerie: Eighteenth-Century Fireplaces

A FEW more words may be said about that eighteenth-century quarto on "Fires Improv'd," etc., to which I referred last week. I finished up by mentioning a device for introducing cold air from the outside of a room, first into the cavities where it would be warmed, and would in turn warm the room without increasing or diminishing the fire. Desaguliers' contention was that a room warmed by air which is constantly new, "it will defend us against several Inconveniences, and especially the Ladies; that is of great Advantage to sick People, and those which visit them."

Numerous chapters of this delectable quarto treat of the common defect of the early eighteenth-century chimney, including explanations as to the external causes of smoke. These defects our author enumerates as follows:—

1. "That parallel jams or sides, the inclination of the breast, or part under the mantle tree, and the way that the Funnels are carried, occasion Chimneys to Smoke."
2. "That Jams or Sides bent into a Parabolic form; the Horizontal Plane under the mantle tree, and the Funnels carried in Curve Lines, when they are not carried directly up, are the most proper for hindering Smoke."
3. "That the Bellows, or Vent Hole under the hearth, does also prevent Smoke; not by driving it up the chimney, as some imagine (for its direction would only drive it against the back), but by making the Fire to flame. and so diminishing the quantity of Smoke."
4. "That the external air, which warms a Room by going thro' the Cavities behind the Back, does also hinder it from Smoaking."

* * *

Our author finishes as hereunder:—

The Conclusion of the Whole

"If this Book, by rendering the use of these chimneys common, makes ingenious men leave their sublime and merely curious speculations, and apply themselves more to simple mechanics for the general good of the Common-wealth, I shall have my end."

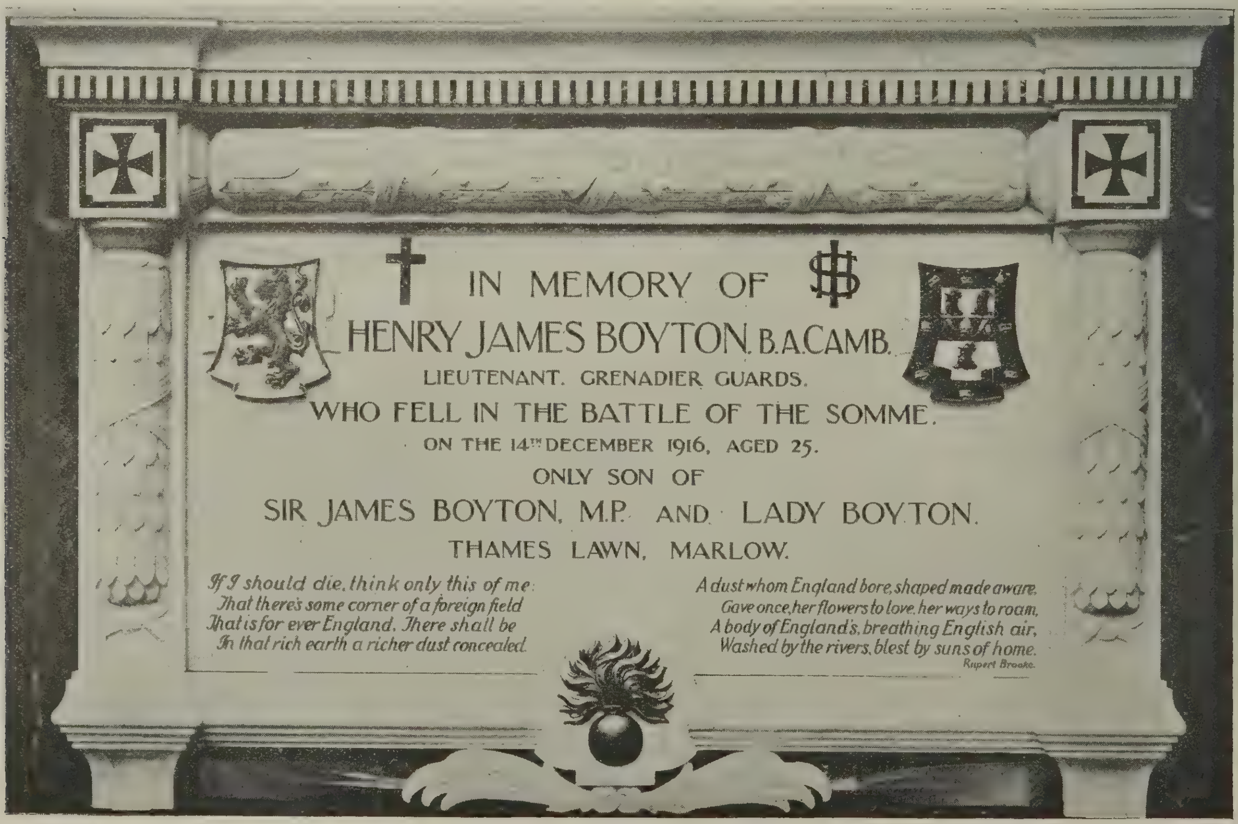
* * *

There can be no doubt at all of the fact that throughout the eighteenth century most people in London and other towns suffered from smoky chimneys in a way little understood to-day. Desaguliers did his very best to improve matters, but very few people, especially architects, had courage to adopt his principles. From the advent of the first of the Georges until the year seventeen hundred and sixty, when the improved form of basket grate came into common use, the fireplace in large houses had for its chief fitment a pair of dogs, with a species of bar grate united to them. As early as 1720 this type of fire-grate made its appearance, but it was left to the ingenuity of the maker of fire-grates rather than to the architect to improve matters. From 1740 onwards we find that the practice of lining the jambs with iron or brass in order to retain the heat led to the evolution of the fire-grate made in one piece, framed between an iron surround. The general practice, however, favoured a species of basket grate, which found its highest expression in the masterpieces of design made fashionable by the Adam brothers. Close study of fire-grates of the middle period of the eighteenth century reveals this curious fusion of dogs with the grate basket, and at times a combination of grate basket with iron frame surround.

* * *

Desaguliers had played his part; he had pointed out the scientific aspect of warming rooms; he had devised a system of superheating applied to an ordinary fireplace. It is true he borrowed his ideas from a French author, but he at least attempted to Anglicise those ideas. To Mr. Wells (who is a Member of the American Society of Heating and Ventilating Engineers) I again tender my best thanks for bringing this interesting old quarto to my notice.

AERO.


IN MEMORY OF
HENRY JAMES BOYTON. B.A.CAMB.
LIEUTENANT. GRENADIER GUARDS.
WHO FELL IN THE BATTLE OF THE SOMME.
ON THE 14TH DECEMBER 1916, AGED 25.
ONLY SON OF
SIR JAMES BOYTON, M.P. AND LADY BOYTON.
THAMES LAWN, MARLOW.
If I should die, think only this of me:
That there's some corner of a foreign field
That is for ever England. There shall be
In that rich earth a richer dust concealed.
A dust whom England bore, shaped made aware,
Gave once, her flowers to love, her ways to roam,
A body of England's, breathing English air,
Washed by the rivers, blest by suns of home.
Rupert Brooke.

A WAR MEMORIAL PANEL. W. HENRY WHITE, F.R.I.B.A., ARCHITECT.

Current Architecture. 58.—The Cunard Building, Liverpool: Public Space in General Office

Willink and Thicknesse, FF.R.I.B.A., and Mewès and Davis, Architects

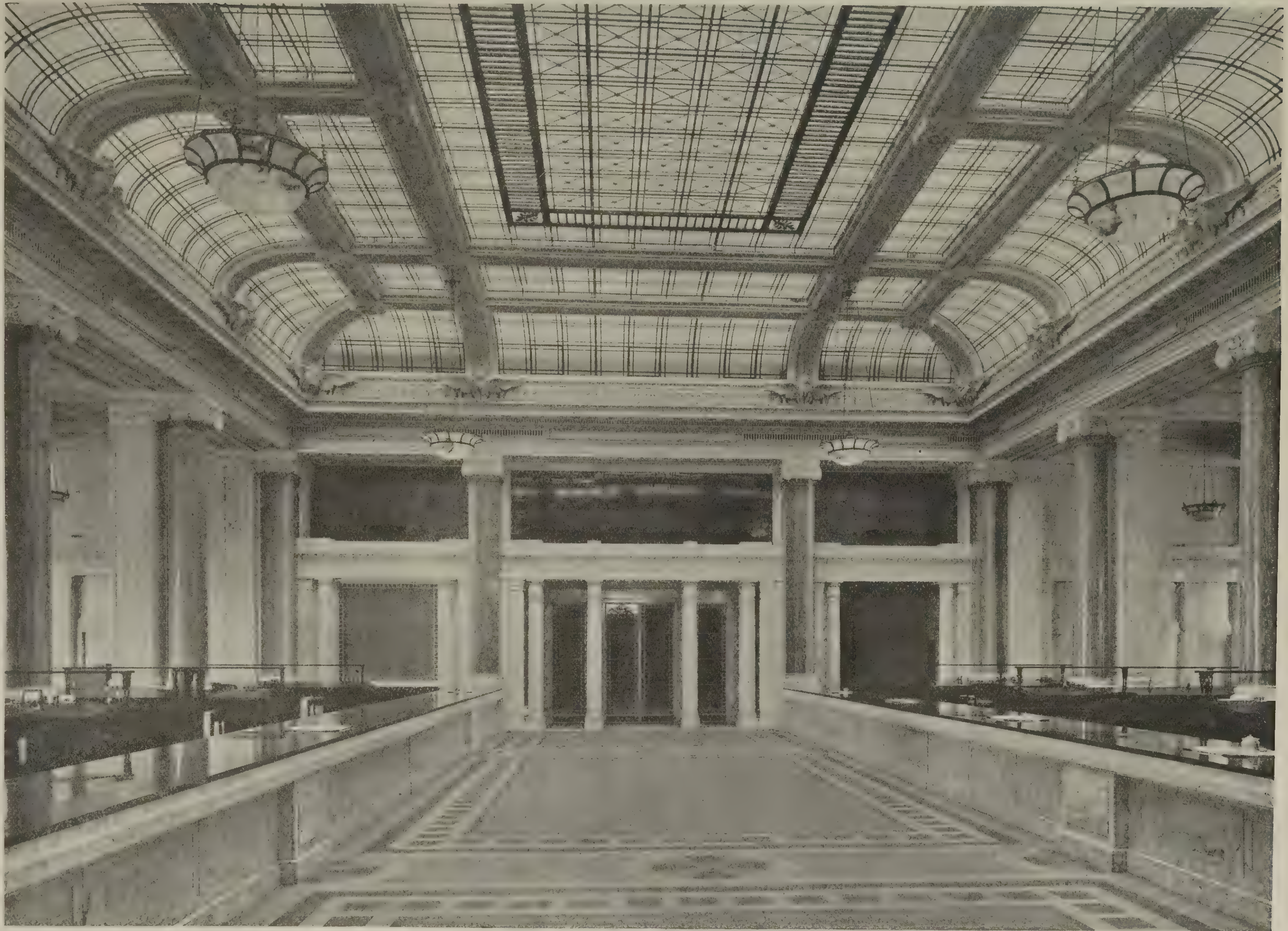


Photo: Bedford Lemere.

The planning of the Cunard building is simple, direct, and large in its parts, the public space in the general office, one of the principal elements in the design, being a particularly fine apartment. An interesting account of the building was given by Mr. Willink before the R.I.B.A. at its last meeting. A précis of his paper appears on page 185 of this issue.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

The Cunard Building, Liverpool*

By W. E. WILLINK, M.A., Cantab., F.R.I.B.A.

LET me at once put this building into its proper place. It has no claim whatever to be considered as a work of imagination; it is simply an office building, large indeed in dimensions, and the home of many firms of world-wide interests, but merely an office building, in which economy, practical utility, comfort and convenience could never be disregarded. These qualities I think I may claim it does possess.. The man to whom the honour of reading this paper should have fallen is not myself, but my late partner, Philip Thicknesse, who, to the deep grief and immeasurable loss of all who knew him in any capacity, died in the early spring of last year.

Then, again, I should like to mention the valued advice and assistance of Messrs. Mewès and Davis, who, in the person of Mr. Arthur Davis, were appointed by the Cunard Company to act as advisory architects. It was, indeed, due to Mr. Davis that the Italian Renaissance was adopted as the guiding style of the exterior, and his excellent judgment and power of design were of constant service to us both at the outset of operations and, as occasion arose, during the progress of the work. I should also be lacking in justice if I failed to acknowledge the work of Mr. J. Watson Cabré, to whose robust and vigorous handling most of the detailing was committed until in 1916 he went off to the war.

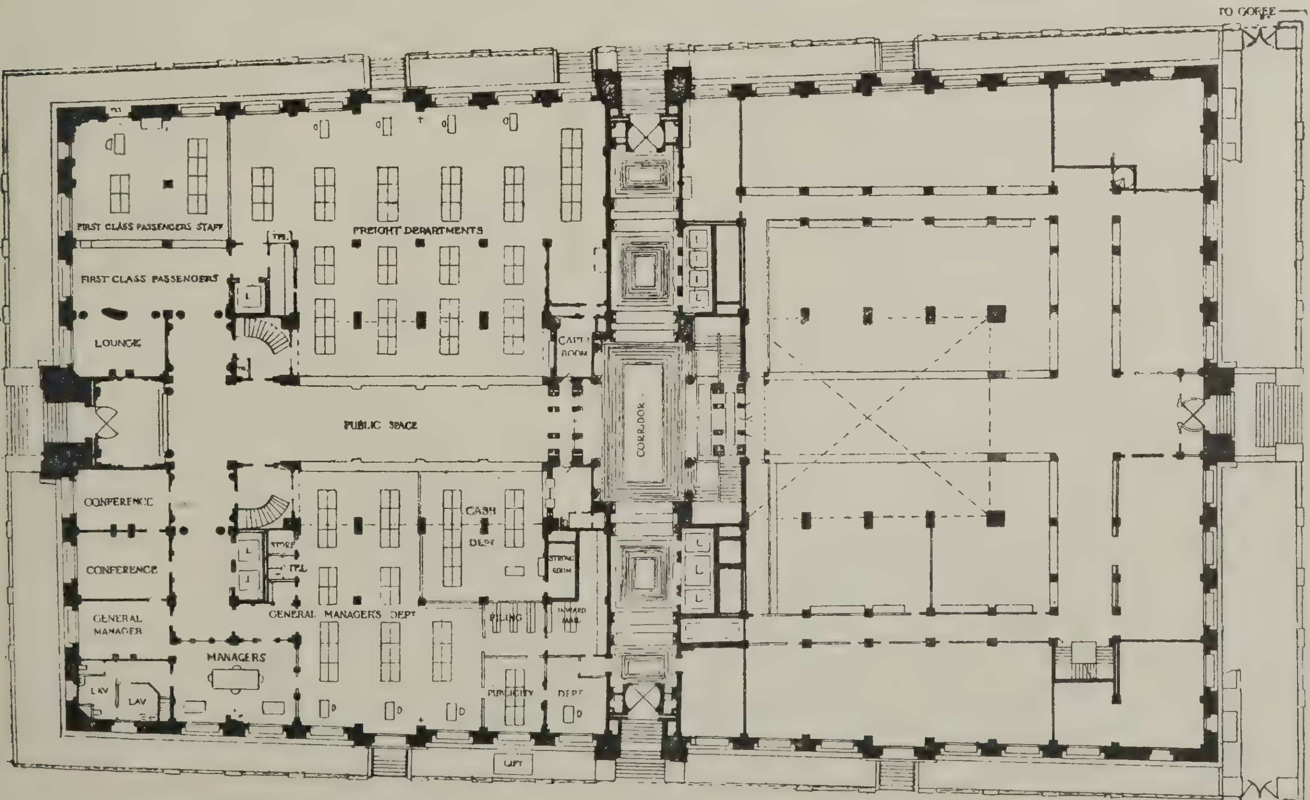
The site of the Cunard Building is an interesting one, bearing in mind, of course, the fact that Liverpool is for all practical purposes a modern town. There was one initial difficulty with which we were faced as soon as we got on to the site. It was reclaimed from the estuary; and when we began to devise things there were several feet of water in the old dock—in fact, the filtration of the water backwards and forwards brought it about that the water stood at about mean tide level. We naturally wished to have the whole of the cubic contents of the building available for use, and the question was how to do it.

The first idea which came to us was the construction of a great watertight tank. We found, however, that the tank would be very costly, and, moreover, that we could not count on permanent efficiency, even though it might be quite sound at first; but the chief argument against it was that the whole weight of the building would not be equal to the weight of the water displaced, supposing it to rise to a level outside, which was not impossible. We could not feel quite happy in the anticipation of a building floating on the waters, so we had to fall back on pumps. They do their work in a satisfactory manner.

The dock floor we found—under the accumulations of a century and a half, few of which were of any interest except a considerable amount of china clay, no doubt connected with the Herculaneum potteries—to be the boulder clay which overlays the new red sandstone over the whole of the Liverpool district. Though this sort of clay is for ordinary weights a very excellent foundation, we felt more security in the underlying rock, and all the piers were taken down to it. From the rock up to the basement mezzanine the piers were built in mass concrete; at that level the reinforced concrete began.

The general flooring of the building is based upon a method first introduced and much used by the Trussed Concrete Steel Company. From main beam to main beam, in this case spans of 16 ft. or so, are carried small reinforced concrete beams spaced 2 ft. centres. Between these small beams are placed in position corrugated iron formes, the top of which comes to 2 in. below what will be the top of the beams. The whole is then filled in with fine concrete, all slightly reinforced. The top of this concrete is some 1½ in. below the finished floor level, the difference being made up with cement rendering brought to a fine surface. Then come cork slabs, and finally linoleum.

The slabs serve two purposes, for they help to give the linoleum floor resilience and warmth, and at the same time provide a convenient and easy way of leading wires for light, telephones, bells, and the like, from the walls to interior positions. Through the small beams steel tubes are concreted in, for the purpose of conducting electric light wires without disturbance of the plaster ceiling, and on the sole of the small beams are boards of equal width, fixed by means of hoop-iron placed in position before concreting, and these serve for the reception of fibrous ceiling slabs. The corrugated iron formes were so arranged that after the removal of the sheeting on which they stood they could be detached and used again, and most of them were so reused three or four times. This floor has been found to be very successful, and has stood all tests, up to the moving of heavy safes—which, of course, in their permanent positions always stand on beams—and except when some temporary annoyance has been caused by the fitting up of



THE CUNARD BUILDING, LIVERPOOL. GROUND-FLOOR PLAN.

---

* Extracts from a paper read before the R.I.B.A. on Monday last.

offices overhead, we have never heard any complaint on the score of noise.

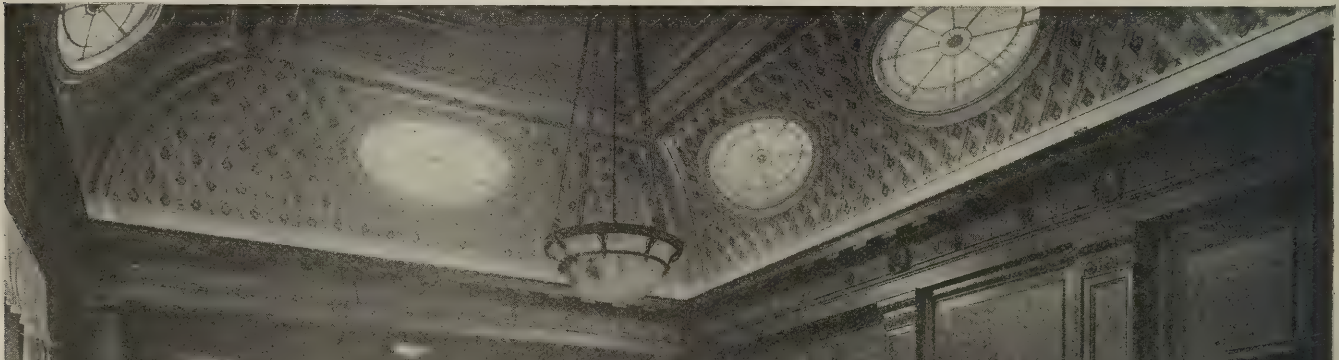
As to the cornice, it is evident that the style adopted demanded a very heavy cornice; as a matter of fact, the cornice actually projects nearly 7 ft. from the wall face. The construction of such a cornice was at first a puzzling problem, for we very naturally wished to have it all of stone. If constructed in the usual way enormous stones would have been needed, especially at the corners of the building, stones far bigger than we could obtain. So a system of reinforced concrete cantilevers was devised, anchored back to the main beams and projecting enough to render possible the use of none but stones of a very ordinary size. On the top of this cornice there is a delightful walk all round the building. The building may be said to consist of gaunt piers, beams, and floors of reinforced concrete, all strictly useful and adapted to the purposes they had to serve. The covering is of Portland stone.

The treatment of the surfaces gave rise to a good deal of thought, for we wished to get as much appropriate variety as we could. The spaces between the basement windows were made of flat rock-faced stones, in the hope that we should get the effect of huge blocks carrying the whole structure. Of course, we did not succeed, but that was of no great moment, since it was not a very necessary feature in the design. Then came the heavily projecting, rock-faced batter, in which, though we made no attempt at continuity in the coursing, the vertical joints were less marked than the beds. The strongly-marked rustication at the angles, above the batter, is built with coarsely sparrow-picked blocks, the holes being some 4 in. or 5 in. apart. Then the whole storey above the batter, the first floor, is, between the rusticated angles, built of stones grooved horizontally with fine tines, and above that we have the ordinary rubbed surface.

The planning of the building is very simple. An important doorway in the centre of each side gives access to a main corridor dividing the block into two halves equal and similar in all but width. On each side of this corridor on all floors above the ground is accommodation of one bay, 16 ft. in width, practically all given up to staircase, lifts and lavatories, etc., for principals and staff, men and women. The staircase is worth mentioning, for since the introduction of lifts there has been a tendency to relegate the stairs to a very secondary place, making them narrow, dark, and inconvenient. By putting in a really good staircase you not only give opportunity for easy and quick communication between floor and floor, but you add light and cheerfulness to each corridor and good chance of ventilation. The lavatories are drained into pipe ducts, 6 ft. by 2 ft. 6 in., of which there are four running from the bottom to the top of the building, where they are open to the air, and thus out of doors, satisfying sanitary requirements. On the four lowest floors, including the ground floor, the whole of the space covered by the building is utilised, but on all the floors above the ground floor each half of the building has in the middle of it an open area, about 60 ft. by 50 ft., lined with white tiles, giving excellent light to the offices—about 55 ft. wide between the areas and the streets.

On the top floor of all there are all sorts of buildings, quite irregular in size and height—lift-houses, restaurant, kitchens, and larders, and a couple of offices. Hence the plain screen wall above the cornice, which hides all the diversified outlines from all except airmen. The ground floor is some 8 ft. above the pavement, so as to allow for good windows to the lower ground-floor rooms, some of which are of considerable importance. The ground floor is 23 ft. floor to floor, all floors above it 14 ft., except the second floor, which is 16 ft. The height of the corona is 110 ft. above the pavement, and the screen wall about 10 ft. more. The total length of the building is 330 ft., the breadth at the pier-head end 170 ft., and at the city end 200 ft.

Speaking quite generally, the style of the exterior is Italian Renaissance, though I do not claim that we could give chapter and verse for all the details. The general scheme, however, is quite normal. The strong rock-faced base, battered or vertical, is common. The ground and mezzanine floors under the main floor is not unknown. The Piano Nobile, in this case represented by the second and third floors linked together by the architraves, is universal, and the intermediate floor between the window canopies and the frieze does not seem to be out of place.

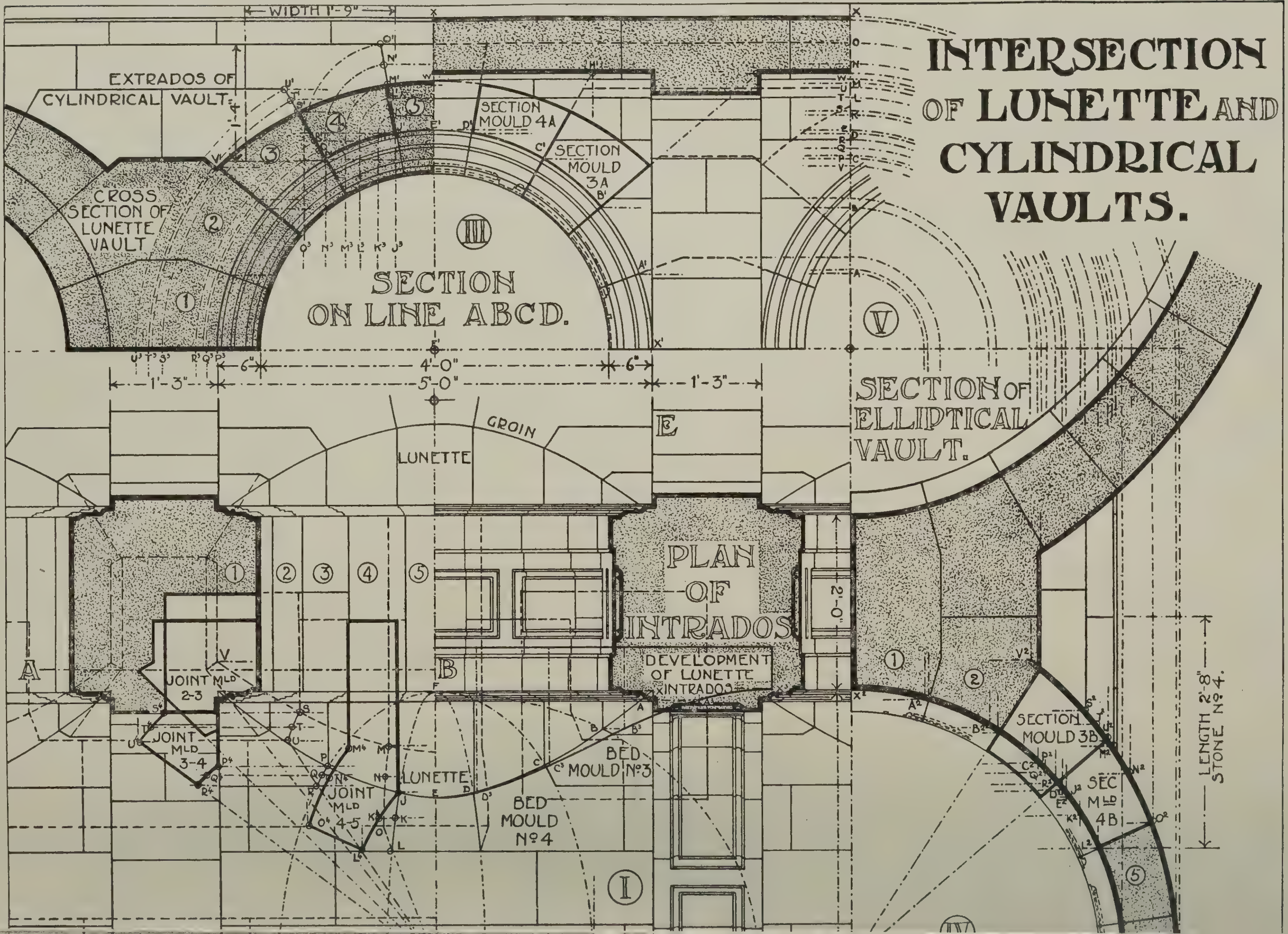


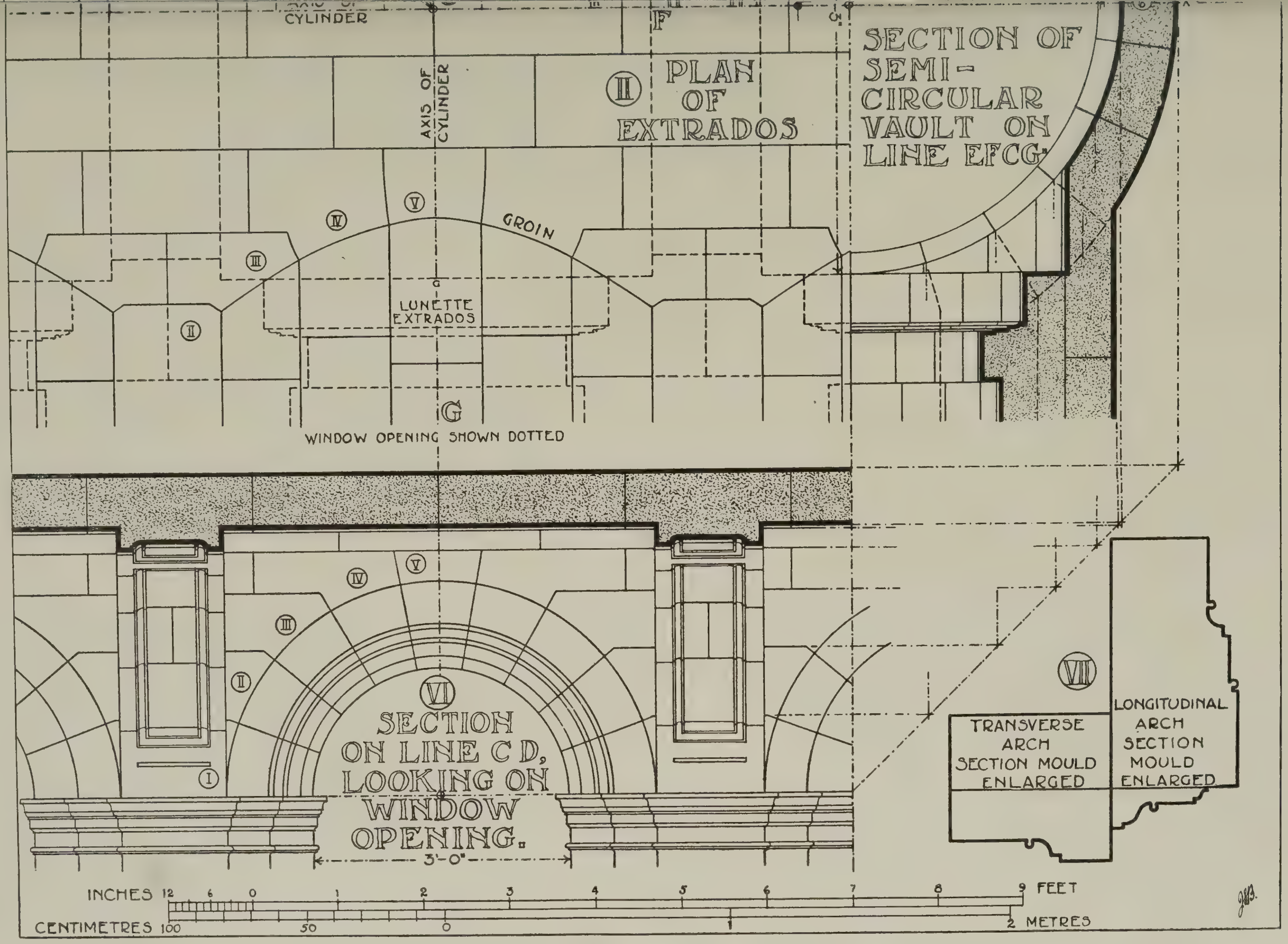
THE CUNARD BUILDING, LIVERPOOL: BOARD ROOM.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Details of Vaulted Entrance to the Cour du Louvre, Paris: Fig. 1

Measured and drawn by James S. Boyd, Licentiate R.I.B.A.

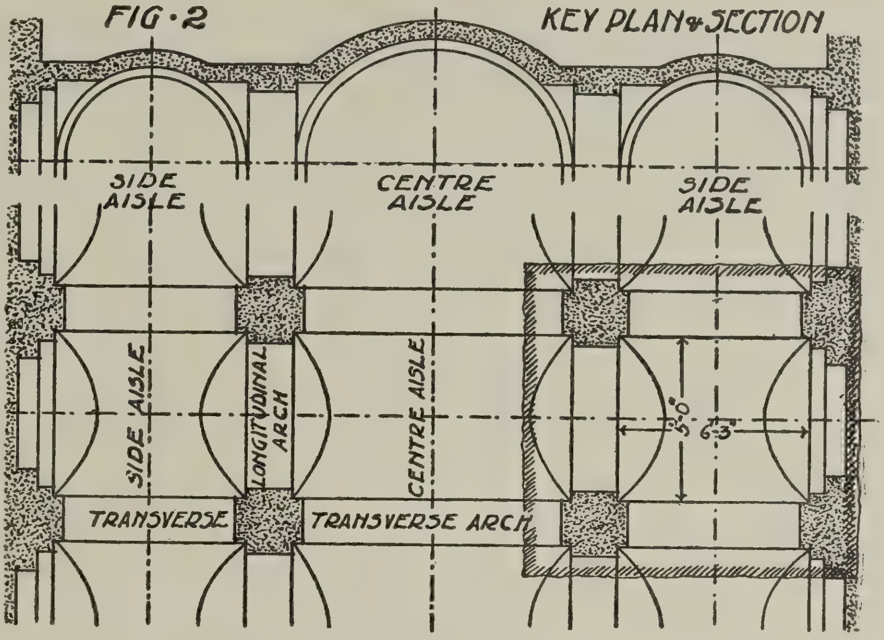



AXIS OF CYLINDER
F
3'
II PLAN OF EXTRADOS
SECTION OF SEMI-CIRCULAR VAULT ON LINE EFCG.
AXIS OF CYLINDER
GROIN
I
II
III
IV
V
LUNETTE EXTRADOS
G
WINDOW OPENING SHOWN DOTTED
VI SECTION ON LINE C D, LOOKING ON WINDOW OPENING.
3'-0"
VII
TRANSVERSE ARCH SECTION MOULD ENLARGED
LONGITUDINAL ARCH SECTION MOULD ENLARGED
INCHES 12 6 0 1 2 3 4 5 6 7 8 9 FEET
CENTIMETRES 100 50 0 1 2 METRES
J.B.

This drawing should be studied in conjunction with Mr. Boyd's masterly exposition of the construction and stone-cutting of lunette and cylindrical vaults, which begins on page 191. The drawing reproduced above is based on measured sketches made on the spot by the author, but the details of design and the dimensions have been modified to secure greater clearness and simplicity of construction.

Construction. 16.—The Construction and Stone-cutting of Lunette and Cylindrical Vaults

By JAMES S. BOYD, Licentiate, R.I.B.A.


FIG·2

As a basis for the study of the construction of lunette and cylindrical vaults, the vaulted entrances to the Cour-du-Louvre, Paris, have been selected. The scale drawing (see double-page plate) is based on measured sketches made on the spot by the author, but the details of design and the dimensions have been modified to secure greater clearness and simplicity of construction.

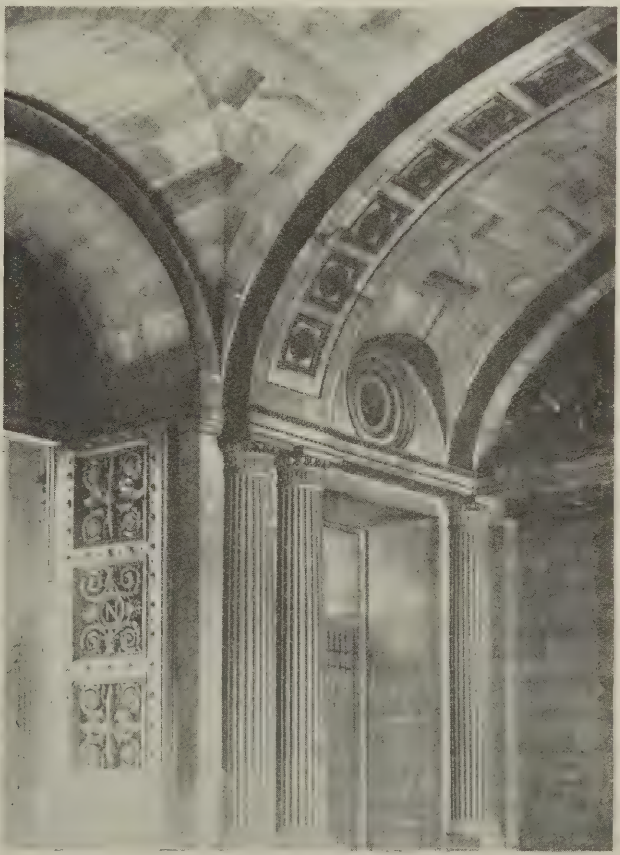
The sketch plan and section, Fig. 2, explains the relation of the three cylindrical vaults and their interpenetration by the lunettes. The lunettes being cylindrical, the longitudinal arches built in conjunction therewith are semi-circular. Those over the window openings at either end of each bay are plain and are connected with the window archivolt as shown in plan, section, and elevation at II., IV., and VI., respectively, Fig. 1. The two other longitudinal arches of each bay are moulded on either face and have sunk panelled soffits as shown in plan. The central aisle vault is semi-elliptical, and those over the side aisles semi-cylindrical in contour, the transverse arches in each case following the curve of the respective vaults.

As the construction and "setting out" is the same for either of the vaults, attention will be confined to the smaller one shown by the shaded portion of the key plan, Fig. 2.

In making the full-size drawings (Fig. 1) on the drawing platform only half of each compartment need be laid down. Nothing but the actual lines required to produce the several moulds need be shown, but as the scale drawing here reproduced serves the purpose both as a constructional design and as a representation of what is required to be set out full-size, a great deal more than is actually necessary for the latter purpose has been included.

At right angles to each other, lay down the axes of the semi-cylinders in plan, and draw in section the semi-circular soffits of both the lunette and cylindrical vaults—span 5 ft. and 6 ft. 3 in. respectively. From the sections project the rectangle in plan, adding the width of the arch soffits. The sections of the archivolt and sunk panel

SIDE AISLE, VERSAILLES CATHEDRAL.


EAST ENTRANCE, COUR DU LOUVRE.

mouldings should now be drawn in plan, but it is not necessary to show this amount of detail on more than one pier. Draw the elevations of the longitudinal and transverse arches as shown in the sections III. and IV. Next draw the extrados of both vaults in section, using a centre a few inches lower than the centre for the intrados, thus making the vaults slightly heavier at the haunches, which will be a structural advantage.

Before the jointing can be properly arranged, it is advisable to determine first the curve of intersection or groin between the interpenetrating cylindrical surfaces—intrados and extrados. To save a complication of projectors, the joints on the lunette soffit may be used as generators of that surface.

Two methods of arranging the jointing may be adopted, each giving different results in regard to appearance. By one method the long joint arrises on the intersecting soffits are arranged to meet on the groin line. By this arrangement the width of the courses on either one or both vault soffits will vary. This method is suitable when the lunette is very small or of slight interpenetration, but if the lunette vault be large the jointing would be more satisfactory in appearance and the vault would be stronger if the courses in each of the vaults were of equal width. This latter arrangement is the one shown on the scale drawing.

It is important in spacing out the width of the courses in the lunette and larger vaults to make the courses in the former a little narrower than those in the latter. This ensures that the first joint in the lunette is not above the level of the first joint in the larger vault. There would be no objection to the first joint in both vaults meeting at the same point on the groin, but, as already stated, more satisfactory results are obtained when the courses of the lunette are narrower than those of the larger vault.

On the soffit of the larger vault in Section IV., space out the courses—11 in this case, and space out the courses—9 in number—on the soffit of the lunette, such that the first division A^1 is below the level of the first division on the larger vault. It will be observed that most of the lunette stones have part of the moulded arch worked upon them.

To draw the curve of intersection or groin in plan, make use of the joints A^1, B^1, C^1, D^1, and the point E^1 as generators which are projected into plan. Find the horizontal projection of these generators on the soffit of the larger vault in Section IV., as at A^2, B^2, C^2, D^2, and E^2, from which project into plan cutting the generators of the lunette in the points A, B, C, D, and E, and through these points draw the groin curve.

The radiating bed joints of the lunette are inclined planes, and as these planes cut the intrados and extrados of the larger vault they will show as elliptical curves in plan. The latter may be drawn as ellipses of known axes to pass through the points B, C, D, J, and P, on the groin in plan. For the ellipse passing through the point C, the major axis F G is the span of the larger vault, and the minor axis is obtained by producing the inclined plane of the bed joint C^1, Section III., to intersect the cylindrical intrados at the crown in the point H^1. By projecting from this point to the plan the point H is obtained which gives the minor axis.

Another suitable method for drawing these elliptical curves in plan is shown at J. First find in Section III. the point L^1, where the horizontal joint L^2 of the larger vault intersects the inclined plane of the bed joint between stones 4 and 5. Take an intermediate point as K^1, Section III., and obtain its plan K by finding where a horizontal line from K^1 will cut the larger vault soffit in K^2, from which the point K in plan can now be located. A fair curve drawn through the points JKL will be an elliptical arc. The plan of the joint PQR can be drawn in a similar manner if desired.

For the purpose of making the bed moulds, and in order to obtain the minimum dimensions of the stones to be cut, it is necessary to draw in plan the extrados joints including the elliptical curved joints MNO and STU, shown dotted. This may be done by either of the two methods already described, but the second method will be found to be the more suitable of the two. The inclined plane of the joint—in addition to cutting the intrados in the points JKL also cuts the extrados in the points MNO. It will be observed from Section III. that the highest point O^1 is on an extrados joint of the larger vault, and both elevation O^1 and plan O are projected from O^2 in Section IV. An intermediate point N^1 in elevation and N in plan are determined, as already explained. Through the points MNO the plan of the joint is drawn, and a straight line joining O and L will give the line of intersection between the inclined planes of bed joints 4—5 in both vaults. The extrados joint STU will be drawn in a similar manner to MNO. A straight line joining UQ will be the intersection of the planes of the bed joints 3—4 in both vaults. It will be observed that this line produced passes through the point C in plan.

The straight joint arrises of intrados and extrados are projected directly into plan from the two sections, the upper part (1) being a half plan of the intrados with the extrados joints shown dotted. The lower part (II) of the same figure is a half plan of the extrados, omitting the intrados jointing for clearness. The vertical joints may now be arranged dividing the stones in both vaults into lengths suitable for bonding and for convenience of handling and cutting.

Bed and Joint Moulds

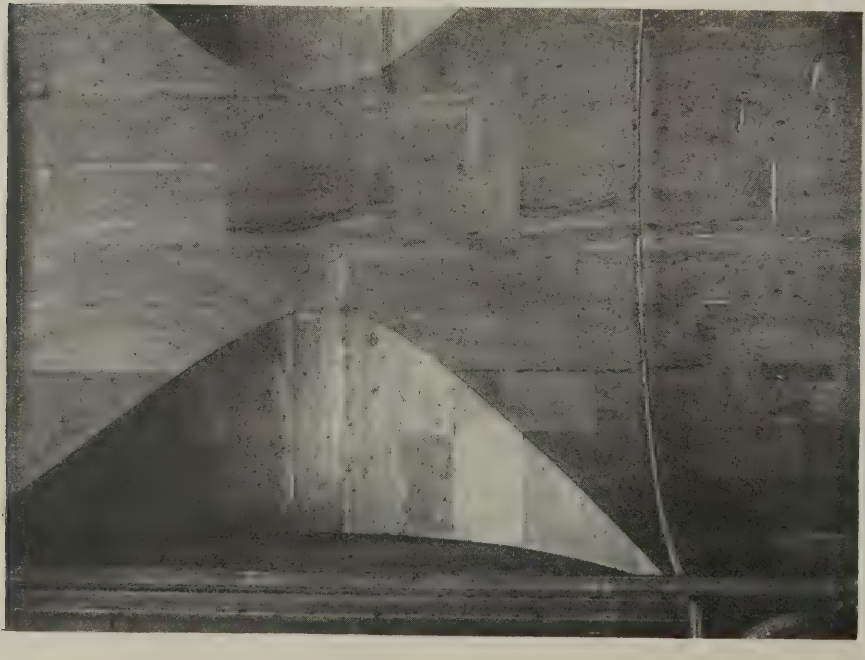
Bed moulds are only required to get the exact position of the vertical joints drawn on the bed of the stones which form part of the two vaults, e.g., bed moulds 3 and 4. The bed moulds need only be cut to the overall plan of each stone. If the stonecutter is expert enough to put on the two vertical joints on these stones by measurement from plan, the use of bed moulds may be dispensed with. It is necessary, however, to produce radiating bed joint moulds for the joints 2—3, 3—4, and 4—5, and these may be produced by either of the methods shown as for joint 4—5, or for joints 2—3, and 3—4. The lower edge of the joint 4—5, i.e., the joint at J^1 on the lunette soffit, is used as a hinge, and the plane surface of the bed joint—containing as it does the curves JKL and MNO—are rebatted into a horizontal plane as shown in plan.

The other method is illustrated by reference to the bed joint 3—4. Instead of rebatting the plane of the bed joint on its lower edge, the inclined plane of the joint is rebatted round the axis F^1 of the semi-cylinder. The rebatted figure falls toward the left, as shown in plan, where the joint mould 3—4 is clearly indicated. The joint mould 2—3 is rebatted in a similar manner.

Stone Cutting

Stone No. 4.

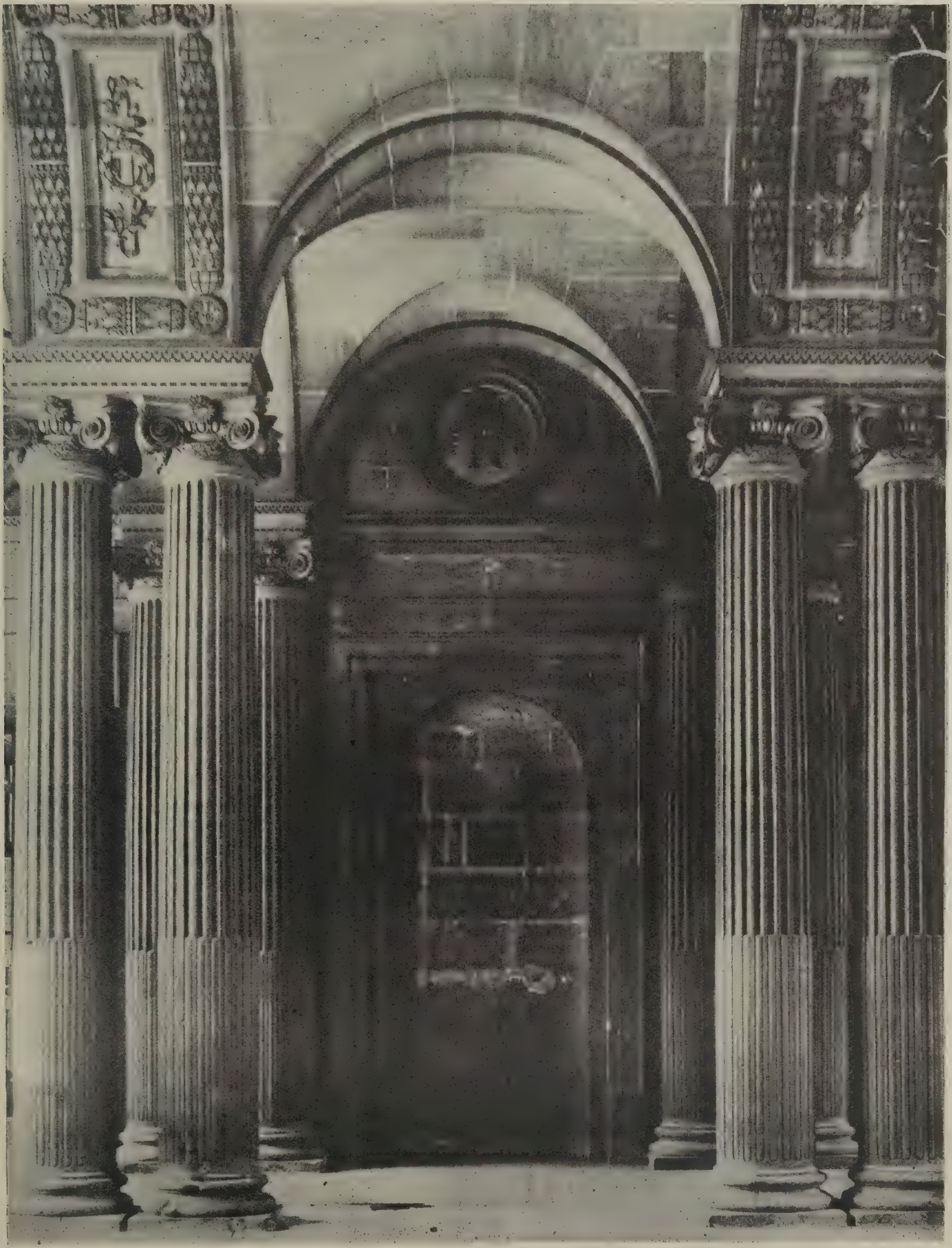
The rectangular block required for this lunette stone is approximately 2 ft. 8 in. by 1 ft. 9 in. by 1 ft. 4 in. high. Begin by working the bottom bed as a surface of operation, but as all this—except one arris—will be cut away, the surface need only be roughly scabbled, see Fig. 3. Where the arris occurs, and where the vertical joint has to be cut, a broad clean draft should be worked. Scribe the bed mould, and at right angles to the operation plane cut the two vertical joints, on which scribe the section moulds of the lunette and larger vault. observing that the mould for the latter is applied at the proper height (X) above the operation bed. This dimension is the difference in



VAULTING, SOUTH ENTRANCE, COUR DU LOUVRE.

French Renaissance Architecture. 1.—Detail of Vaulted Loggia, West Entrance, Cour du Louvre, Paris

Percier and Fontaine, Architects



During the First Empire considerable alterations were made to the Louvre by Percier (1764-1838) and Fontaine (1762-1853) who enlarged and redecorated the building with sufficient skill to avoid any want of harmony with the existing older portions of the work. The above view should be studied in conjunction with Mr. James S. Boyd's analysis of lunette and cylindrical vault construction, which begins on page 191.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

height between the points P and R in plan and may be measured at P^1 R^1 in Section III.

Accuracy in the application of these section moulds will be secured if vertical lines are scribed on them and the moulds adjusted in their application to the stone so that the line on the mould will coincide with a steel square applied from the bottom bed as shown. Now cut drafts to contain the soffit arrises of the upper radiating bed joints, and on these drafts draw the arris lines. Also, on the top surface of the rough block run two drafts whereon lines may be scribed which will enable the plane surface of the upper radiating beds to be cut. To work the lower radiating bed joints, cut in arris drafts at the lines scribed on the bottom bed as shown in Fig. 4. Rough out the surplus stone and cut in drafts at right angles to the vertical joints and out of winding with the lower arris drafts. This will ensure an accurate line of intersection between the two inclined planes. After accurately cleaning these surfaces, the radiating joint mould 3—4 may be scribed, and on the upper radiating bed the joint mould 4—5 will be scribed.

The soffits can now be worked by first scribing the soffit curve of the lunette on a vertical surface of the stone at the end opposite to the vertical joint. Rough out the surplus stone, cutting in chisel drafts to the soffit curve and cleaning through the cylindrical surface of the lunette. To form the surface of the other vault, draw the groin line PJ, Fig. 4, by means of a flexible mould obtained from the developments of the lunette intrados shown on the right side of the plan (I.), Fig. 1. Rough out the surplus stone at X, Fig. 4, and form the cylindrical soffit by running a series of parallel drafts between the groin curve PJ, the curves PR and JL on the radiating beds, and the soffit curve already scribed on the vertical joint—see Fig. 5.

The extrados may be completed, first by cutting away the surplus stone, then forming chisel drafts to the curves MO and SU, and to the extrados curve already scribed on the vertical joint of the larger vault. The extrados of the lunette will be cut as a cylindrical surface from the extrados curve already scribed on the vertical joint until it neatly intersects with the cylindrical surface of the larger vault in the exterior groin MS.

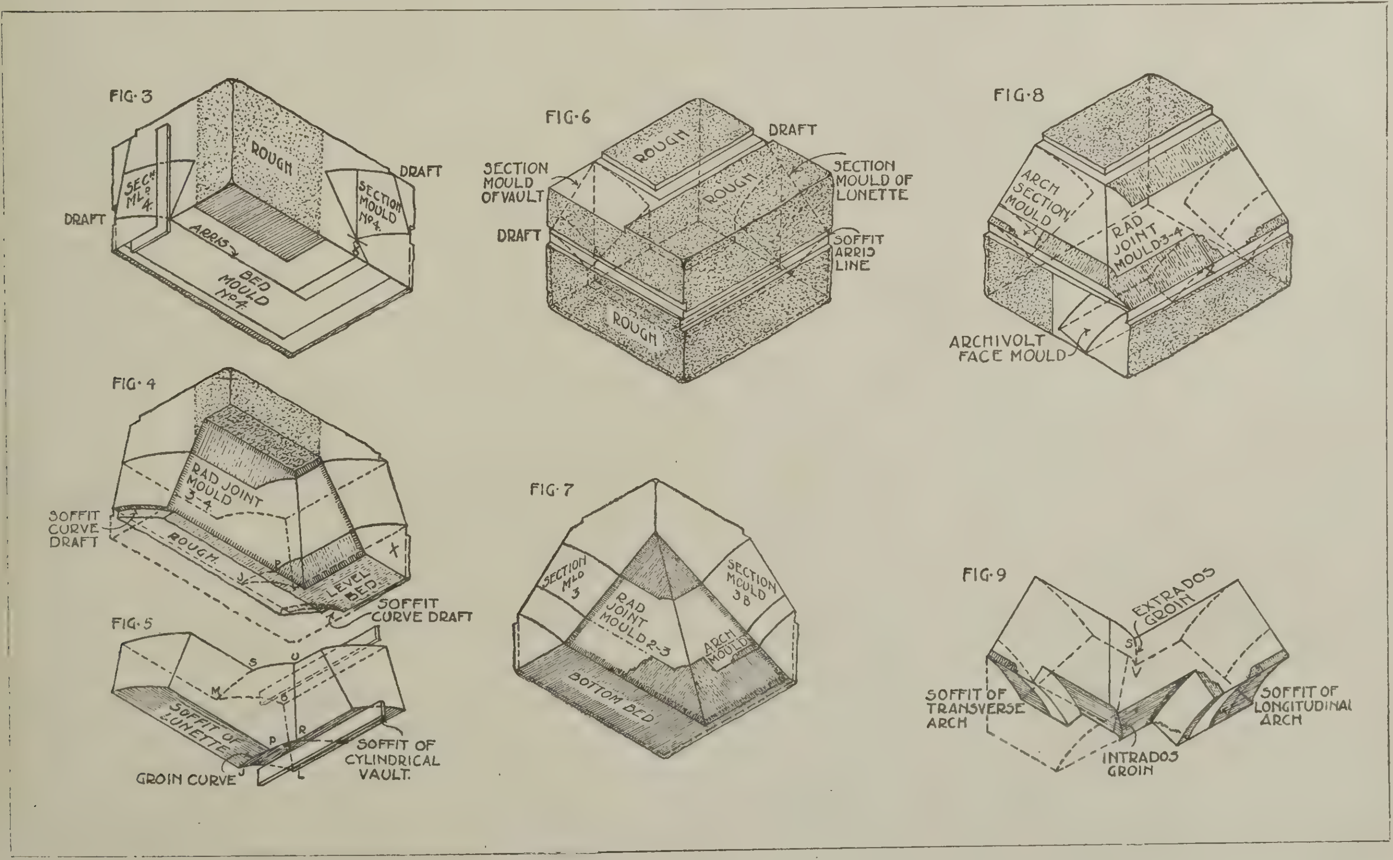
Stone No. 3.

The rectangular block required for this stone is approximately 2 ft. 5 in. by 2 ft. 2 in. by 1 ft. 8 in. high. Work the bottom bed as a surface of operation, and on this scribe the bed mould to obtain the position of the vertical joints—see Fig. 6. Labour should be saved in working operation surfaces as explained in describing the cutting of stone No. 4. At right angles to the bottom bed cut the vertical joints, on which scribe the section moulds, observing that the section mould of the larger vault is slightly higher than that of the lunette. The exact difference in level may be measured at B^1 in Section III., Fig. 1. Now cut drafts to contain the soffit arrises, and drafts on the top bed to contain lines which will enable the upper radiating beds to be cut—Fig. 6. The lower radiating beds may be cut by running chisel drafts to lines on the bottom bed and to lines given by the two section moulds—see Fig. 7. It is important that the intersection of these inclined planes is accurately formed.

On the lower radiating beds scribe the joint mould 2—3, and the transverse arch section mould—shown enlarged at VII., Fig. 1. On the upper radiating beds the joint mould 3—4 and the transverse arch section mould are scribed—Fig. 8. To work the soffits, begin with the surface of the longitudinal moulded arch, the soffit curve of which should be scribed on the end of the stone as shown in Fig. 8. Cut this cylindrical surface, but save labour on the part which has to be sunk to a greater depth to form the soffit of the lunette. The lunette soffit is cut by first roughing-out the surplus stone and sinking a curved draft at X, Fig. 8, and then cleaning through the cylindrical surface. On this surface scribe the flexible mould which will give the groin line for this particular stone. The soffits of the transverse arch and larger vault may now be cut as shown in Fig. 9. Now rough out the surplus stone on the extrados and sink a draft to the curve of the vault extrados, forming the surface of the latter by running straight parallel drafts. The extrados of the lunette is now carefully worked by running parallel drafts, an accurate intersection being formed between S and V. The stone may now be completed by sinking the panels with their small mouldings and working the members of the archivolt.

The Late Mr. E. W. Cox

We much regret to note the death of Mr. E. Webster Cox, J.P., Chairman of the Directors of "The Builder," Ltd. Mr. Cox, who had reached the advanced age of eighty-two, was a Liveryman of the Worshipful Company of Stationers and a Justice of the Peace for the County of Middlesex. For sixty years he was closely identified with the religious life of Hampstead, where he had made his home. He had been associated with our contemporary for the past forty years.



DIAGRAMS ILLUSTRATING CONSTRUCTION AND STONE-CUTTING OF LUNETTE AND CYLINDRICAL VAULTS.

Discoveries at Glastonbury Abbey

On Thursday evening, at an ordinary meeting of the Society of Architects, 28 Bedford Square, Mr. Bligh Bond, F.R.I.B.A. (of Bristol), delivered an illustrated lantern lecture on "Discoveries Made During the Recent Excavations at Glastonbury Abbey."

Mr. Bond said that Glastonbury and its associations were dear to the hearts of all English men and women for many reasons, but chiefly from the great antiquity of its history. It was undoubtedly the earliest Christian foundation in these islands, and it was traditionally said to have been missioned by Joseph of Arimathea. It was also undoubtedly the stronghold of the Druidical faith, and it was a place of natural security; a sort of island fortress where the inhabitants could live unmolested.

The Old Timber Church

Tradition had it that when Joseph came to Glastonbury his followers founded the old timber church which existed there, and that old church was said to have been kept going in one way or another by means of restoration for 1,000 years. First the Saxons kept it going, followed by the Normans, who carefully preserved it until A.D. 1184, when it was said to have been burned down with all the other buildings in a great fire which occurred in that year. A Romanesque chapel was built within a few years of the fire, parts of which still remain. Certain old records stated that the new chapel was built exactly on the site of the old wooden church, and was of exactly the same proportions. It was certainly a unique specimen of the work of that period, and there were certain details in it which were Burgundian French, which were very refined. There was a crypt which it was believed was excavated in the sixteenth century, and remains of the old fresco work were still to be seen.

In the north-east turret they got into another period. That was in a terribly ruined state; but it had been partially rebuilt by the trustees. To pass on to the great Abbey Church, the windows at Glastonbury were all very wide, and he (the lecturer) judged that as time went on and the glass that was used became much more delicate and fragile so that it could not resist the wind pressure, the builders took to dividing the very wide lights with tracery, which gave a better resistance for the narrower panes. The Great Abbey Church began building about the same time as St. Mary's Chapel, and it went on building under successive Abbots; but after the dissolution it was dismantled and allowed to fall into decay. It became a prey to the landlords, who disposed of the stone, and even in the time of George I. and George II. it was well-nigh gone. Up to 1912, in the course of their excavations, they had discovered a very interesting Dunstan Chapel. It was a thirteenth century chapel on the higher foundation, but there was a very much older foundation below, which he believed belonged to the ninth century.

When excavating the ruins as they stood to-day he came across what appeared to be an angle of a very much older church, and it looked as if the new church when it was built was just built round the site of the old one. It was impossible to say what that church was, and he could not be quite sure about the plan. Right up at the east end they found several fragments of very beautiful work executed in blue lias stone. At the same place he dug up a little leaden token which was no doubt the seal to a Papal "Bull."

With regard to the design of Glastonbury, there was something very satisfying about it—it was all beautifully proportioned and was worked out in multiples of five. Having shown the one remaining transept of the chapel, Mr. Bond said that on the east alley of the cloisters they found the step of the Chapter House, and nearly opposite the opening to the Chapter House was a little foundation between two of the buttresses, which was doubtless the foundation of the house of the man who took tally of the monks as they came along.

The Edgar Chapel

At the beginning of the nineteenth century John Britton published a plan of the abbey, but there was nothing at the east end to guide antiquarians as to what might have been there. They had nothing but that plan and Leland's record to guide them as to what was the shape of the east end. There was a great diversity of opinion among antiquarians on the subject. Professor Willis satisfied himself that the original form of the east end was five chapels in a row, and from the record of Leland he thought that a chapel which had taken two abbots to complete it was rather an important one, and therefore he considered that the Edgar Chapel was there, and he gave it a projection of about 12 ft. Other antiquaries, however, did not agree with Willis, but said that they thought the Edgar Chapel was in another place. In 1904 the Archæological Institute thought they would settle the question, and they got permission from the then owner to excavate, and Sir W. Hope—Mr. Hope as he then was—cut a trench outside the wall, but found nothing in it. He then cut a trench down centrally, when he thought he had come upon the foundation of a wall, but for once he made a mistake—his negative evidence of the trench led him astray because he concluded that as there was no wall there never had been one. The question remained in that curious and unsettled state until, at last, in 1908 he (Mr. Bond) was able to excavate for himself. He had interested a friend in the matter and at the end of 1907 they found themselves in possession of practically all the data that the other antiquaries had got. They got a large variety of contradictory theories; but, personally, he inclined to Professor Willis's theory, although he thought there was a good deal to be said on the other side.

A Massive Wall

Shortly after they commenced digging they found two trenches, and continuing they came upon a massive wall about 5 ft. wide which, on examination, turned out to be 32 ft. long. It was not very far below the ground, and evidently Mr. Hope, when he dug his trench, only missed it by just about 2ft. They were evidently digging out part of the chapel, and in December, 1908, when he made his report to the Somerset Archæological Society, he took courage to say that he believed that 90 ft. was the proper length of the chapel.

In their excavations they found some very interesting relics of the Edgar Chapel—quite enough to make a very valuable study. Unfortunately they had been put away and were not open to public inspection. He had asked the trustees to be allowed to classify the relics and put them on view, possibly at a small charge, but he regretted to say he had not been able to move the trustees in the matter. Some of those relics included remains of the great boss from the vaulting, which were very beautiful. In 1910 he got the refectory and the Chapter House, the Dunstan Chapel, and another chapel which was not marked on the plan. They found the Loretto Chapel 31½ ft. away from the north side of the nave; 40 ft. long and 20 ft. wide. There was nothing left now but the bare foundations. He hoped that some day they might be fortunate enough to dig up a few fragments of the edifice.

Concluding, Mr. Bond said they were very anxious indeed to go on with the excavations. They were working for many years up to the war, and then they stopped for a time. They had resumed work the last two summer seasons. They were hampered very much by want of funds, and they did not always find it easy to move the authorities—they were very slow in coming to decisions, and all the time there was so much chance to go ahead. He would like to see increased interest on the part of his brother architects and antiquaries in Glastonbury, because he believed there was a great deal yet to be found there. They had not half exhausted the site, which was a veritable mine of wealth. Glastonbury must have been one of the most glorious of the Benedictine houses, second only in importance to Westminster. Such fragments as they had succeeded in digging up had been very choice indeed and of unique merit, and in the interests of archæology he trusted that much more work would be carried out on the site.

A cordial vote of thanks was accorded the lecturer for his paper.

Weekly Housing Report

Up to January 28 8,500 houses had been completed under the terms of the Government Grant to private builders. By February 4 an aggregate grant of £1,879,071 had been paid in respect of 8,126 of these houses. Certificate A sanctioning the building of over 30,000 houses had been issued to private builders. By far the largest number, 6,200 of these certificates refer to houses to be built in the London district, 3,714 to houses to be built in Lancashire and Cheshire, and 3,454 in the region which includes Hampshire, Isle of Wight, Sussex, Surrey, and Kent (excluding the Metropolitan Police district).

New housing schemes submitted to the Ministry during the week ended February 4 numbered 22, bringing the total number of schemes submitted to 11,545. The schemes approved now number 8,968, and comprise about 57,775 acres. Thirty-three lay-out schemes were submitted, and 39 were approved during the week, bringing the total number of lay-outs submitted to 7,212 and number approved to 6,651.

House plans representing 1,067 houses were submitted, and plans for 1,177 houses approved. The total number of houses represented in all plans now submitted is 292,122, and in the plans approved 275,182. During the week tenders were submitted for 2,153 houses. Tenders for 1,616 were approved, bringing the total number of houses in tenders submitted to 188,240, and in tenders approved to 173,791. Contracts have been signed for 145,883 houses.

Law Reports

Repairs : Notice under Covenant

Hawkins v. Specterman.

January 31. Official Referees' Court.
Before Sir F. Newbolt, K.C.

This case, involving a claim of £1,438, arose out of the failure of the defendant, a Mrs. Specterman, to comply with a notice to repair under the covenants of a lease of thirteen houses at Stepney, of which plaintiff was the freeholder. There was no defence.

Mr. A. F. Engelbach, appearing for plaintiff, said that the lease, granted in 1902, had almost come to an end, and Mrs. Specterman's interest in it arose out of mortgage and transfer. On April 11, 1919, notice to repair was served upon her, but it was not complied with, and after a short time Mrs. Specterman, on condition of additional time being allowed her in order to carry out the work, signed an agreement undertaking to carry out the repairs by the end of October to the satisfaction of the surveyor, whose fees she agreed to pay. As the repairs were not done at the date specified, on November 5 an ejectment order was obtained in the High Court.

Mr. Herbert Lee, the surveyor, gave evidence as to the preparation of the schedule upon and according to quantities prepared by Mr. Deasch. He said that a "dangerous structure" notice had been served by the London County Council in respect of a portion of the property, which the Council subsequently proceeded to pull down. He estimated that for that the plaintiff would be liable to the London County Council for about £50.

Mr. Deasch, quantity surveyor, and Mr. Charles Warren, plaintiff's solicitor, also gave evidence, and in the result

The Official Referee gave judgment for the plaintiff for the full amount claimed (£1,438), with costs.

Builder's Claim for Work

Palmer v. Kensington Maisonnettes, Ltd.

February 3. Official Referees' Court.
Before Mr. E. Pollock.

This was a claim by Mr. Palmer, a builder, of Fulham, to recover from the defendants the sum of £624 7s. 2d. for work done and the preparation of plans in connection with the conversion of certain houses at Kensington and one at Broadstairs, Kent, into flats. The claim consisted of £443 7s. 2d. for building work, and £181 for the preparation of plans, the idea having, it was said, been as far as possible in the interests of economy, to carry out the work without the assistance of an architect.

The plaintiff's son gave evidence to the effect that he had carried out the work at the Broadstairs house from plans supplied to him by the plaintiff, and according to specifications. While the work was in progress Mr. Dickenson, of the defendant company, visited the job and gave orders for extra work which was not in the specification. He had also done work at the houses at Chandos Place and Queen's Gate Gardens from drawings given to him by the plaintiff.

Several other witnesses who had been engaged on the jobs were called to prove that the work had been done according to instructions.

The electrician who put in the electric installation for bells and lights at the flats, after describing the work he had done, in cross-examination said that some difficulty had arisen in regard to payment by Mr. Palmer, who at one time owed him £65, which induced him to say, "No money no work," and as a result Mr. Dickenson advanced him £10 with which to provide materials.

Amongst the witnesses for the defence was Mr. Wallace, an architect and surveyor, who said that he was instructed to draw plans for the work in Hogarth Road, Cromwell Road, and Broadstairs. He accordingly prepared plans in detail, upon which the work was carried out. Referring to the sketch plan of the plaintiff for the Broadstairs alterations, in respect of which a claim was made, witness said it was certainly not sufficient to put into the hands of a builder. He visited the Hogarth Road property from time to time for the purpose of drawing the plans, and the work was not started until after those visits. As far as the general scheme of construction at Hogarth Road was concerned, it was carried out in accordance with his plans. He never received from the plaintiff any sketch or plan for him to work upon, nor did he need any such assistance. He also prepared plans for 191 Cromwell Road, and the work there was carried out in accordance with those plans. Dealing with plaintiff's charges for making plans, he said that his charge for the Hogarth Road plans was six and a half guineas, and the plaintiff's claim for that item was £24. For the Emperor's Gate plans Mr. Palmer was claiming £20, whereas he (witness) had charged £3 3s. for the plans of that property which he had made. In the case of 191 Cromwell Road, there were structural alterations which could not be made without the sanction of the ground landlord, and it was not at all likely that the ground landlord would have even looked at such a plan as that prepared by Mr. Palmer.

Counsel for plaintiff, in summing up the whole case on the eleventh day of the hearing, asked the Referee, where there was no architect, and where the building owner supervised the work himself, to look with considerable doubt upon a counterclaim made by the defendant for defective work which was not made until the plaintiff's claim was launched against him. Had the defendants paid upon an architect's certificate they would have been estopped from saying the work was not done up to the time those certificates were given. But in this case Mr. Dickenson had overlooked the work himself, and had paid from time to time, presumably only when he was satisfied that the work had been done, and it was not proper that he should be allowed a year afterwards to come forward and claim the return of the money which he had paid.

The Official Referee, in giving judgment, while dealing with the claim for making plans, said that there was evidence that the plans upon which the work was carried out were made by an architect employed by Mr. Dickenson and not by the plaintiff. There was no suggestion of bad faith on the part of Mr. Dickenson, but with regard to Mr. Palmer the case was very different. Certain alterations were made in the estimates by Mr. Dickenson and initialled by Mr. Palmer, but when the documents were put into Mr. Palmer's hands he said that the initials were not put there by him, and that the items to which they referred were extras, and did not form parts of the contract. But anyone looking at the interlineations and initials and comparing those initials with other documents, would say that the initials were those of Mr. Palmer. If they were his initials it would dispose of some of the claims for extras. Mr. Palmer accordingly swore that the initials were not his. He accepted Mr. Dickenson's statement as being true, and he did not accept a word of the statement of Mr. Palmer. Owing to the execution of the work, he said it was clear to his mind that the work was not properly done. Much of it could only be tested by process of time, and on that test much of it did turn out to be bad. The Official Referee then proceeded to examine into and adjudicate upon the various items of the claim and counterclaim, and in the result found that defendant was entitled to £453 12s. on the counterclaim for work left undone, etc., from which would be deducted £100, the sum to which he found plaintiff was entitled. He therefore gave judgment for the defendant on the balance of claim and counterclaim for £353 12s., with costs of claim and counterclaim.

Rights of Builders' Foreman to Pledge Credit

Engert and Rolfe v. Hayward and Wooster.

February 4. Kings' Bench Division.
Before Justices Avory and Salter.

This was an appeal by Messrs. Engert and Rolfe, builders and asphalters, of Poplar, E., against a decision of the Bristol County Court Judge in favour of Messrs. Hayward and Wooster, builders, of Walter Street, Bath. The question before the Court was an interesting one, viz., whether a foreman can pledge his master's credit to get work done which he should do himself.

Mr. Wethered, for the appellants, explained that Hayward and Wooster were building the Avon Cold Storage Company's warehouse at Bristol, and Messrs. Engert and Rolfe sub-contracted to do certain asphalting on the upper floors and roof. Eventually litigation ensued, and Engert and Rolfe sued for a balance of £03 4s. 8d., which Hayward and Wooster paid into Court, and they counter-claimed for £83 1s. The vital part of that claim amounted to £68 16s. 7d. It appeared that Messrs. Hayward and Wooster had an electric hoist at the works as well as a hand hoist, and Engert and Rolfe's foreman came along with his men and necessary materials. Realising that he could save himself a lot of trouble if he used the electric hoist to get his materials up to the higher floors, he got leave to use the hoist. Naturally, his employers were charged by Hayward and Wooster for the use of the hoist and men to work it. They repudiated the claim, contending that the foreman had no authority to pledge their credit. The Judge held that the foreman had, apparently, authority to order those services and the use of the hoist, and consequently gave judgment for Hayward and Wooster for the amount they claimed. Counsel contended that the Judge had misdirected himself in law when he said that a servant could pledge his master's credit to get work done which he should have done himself.

Mr. Justice Avory said that Mr. Wethered, for the appellants, had contended that there was no evidence on which the County Court Judge could come to the conclusion that the foreman Willis, employed by plaintiffs, had an implied authority to order or sanction the employment of the electric hoist for which the plaintiffs had been charged by way of counter-claim. The fact was that the question whether he had authority to do this did not arise at all. The real question was whether he had ostensible authority to bind his employers by sanctioning the use or directing the use of this hoist. In his Lordship's opinion the County Court Judge had decided the case in favour of defendants on their counter-claim on the ground that Willis had ostensible authority, and in that he was right, as there was evidence on which he could come to that conclusion. The Judge had said that a man in the position of Willis would have authority and would be held out by plaintiffs as having authority to pledge his firm, but not to an outrageous extent. The other question in the case was whether anybody had ostensible authority to sanction the unloading of plaintiffs' goods by defendants' workmen when the goods arrived late at the works. His Lordship was satisfied with the frank admission given by Mr. Wethered to the question put to him that the learned Judge must be taken to have disallowed that part of the claim, and therefore no question arose upon it now. For all those reasons the judgment of the County Court Judge could not be disturbed, and the appeal would be dismissed.

Architects' Assistants and a Minimum Wage

The following resolutions have been adopted at a demonstration held by the Architects' and Surveyors' Assistants' Professional Union at Caxton Hall, Westminster, under the chairmanship of the President, Mr. A. S. Penty, Licentiate R.I.B.A.:

"That this meeting of salaried architects, surveyors, professional and technical assistants in the building industry, and representatives of non-manual workers' associations emphatically endorses the policy and proposals of the Executive of the Architects' and Surveyors' Assistants' Professional Union in regard to minimum salaries for all workers employed in a professional or technical capacity in the building industry, such minima being £4 a week for an assistant of nineteen years of age and £6 6s. per week for an assistant of twenty-six years of age, these figures being based on the cost of living at 100 to 125 per cent. above that of July, 1914."

"That this meeting regrets that the Councils of the Royal Institute of British Architects, the Surveyors' Institution, the Society of Architects, and the Quantity Surveyors' Association have not yet adopted the unanimous resolutions of the Architects' and Surveyors' Assistants' Welfare Committee, the properly constituted joint committee of representatives of each institution named on the one part and of the Architects' and Surveyors' Assistants' Professional Union on the other part, and urges that they forthwith do so and make representations to their members and the professions accordingly, and do include these minima in their scales of professional charges."

"That this meeting, in consideration of the low standard of remuneration at present prevailing, appeals to all salaried architects, surveyors, and professional and technical assistants in the industry outside the Union to support in the most practical way their colleagues in their efforts to fix minimum salaries, viz., by becoming members of the Union."

Correspondence

Architectural Students' Competitions

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The present methods for the adjudication of students' competitions leave very much to be desired; the students' duty apparently ends when their drawings have been submitted. How, by whom, and when they are judged are things which they must not enquire.

No practising architect would submit a design in competition where the names of the assessors were unknown, or where the names of the assessors appointed did not inspire confidence in their ability to make a proper selection. The architect in such case can always do the obvious thing and not compete, but the student is not in the same position, he *must compete*. How, otherwise, will his abilities receive recognition? Yet he must do so under conditions which are, to say the least, arbitrary and slipshod.

Take, for instance, the Home Competition, the "blue riband," so far as value goes, of architectural students' competitions—the names of the jury are utterly unknown to the student; even those few people in the know only hear names casually, the full list is never published. The names, when one does hear them, are those of eminent architects whose student days were over half a century ago. The jury probably includes the names of one or two middle-aged men, but too small a proportion to ensure a thorough appreciative understanding of the present-day student.

Present-day methods of training and fashions in architecture are somewhat different to those of the mid-Victorian régime, and, as a consequence, too often the mediocre design is selected in place of those designs showing evolutionary tendencies, which one would imagine the prizes were intended to foster.

Slackness in writing programmes and in assessing competitions is not confined to any particular body. I was myself on the jury of an important Institute prize recently, and was entirely ignorant until the committee met as to who the members were. I did not receive a list of the members, nor has a list been published. Some members of that committee were probably unable to attend, but if so I was unaware of it, and one can easily imagine a case where the absence of a particular member would have necessitated an adjournment so that his advice might be obtained.

It has been my experience many times that the best students have failed to win the recognition to which their genius entitled them solely through the poor selective ability of the assessors or examiners to whom they submitted their work.

Students' competitions are not on a par with competitions for practising architects and should be assessed differently; they (the students) should have the opportunity of expressing their aims and ideals to the jury, and as none better than the students themselves know where the shoe pinches, so all juries of students' competitions should have 50 per cent. of their members as little removed from the student as circumstances permit, not only in justice to the student, but also to ensure that tricks, cribs, and dodges should be exposed.

I would personally not advise any student to compete except under the following conditions:

(1) The names of the jury or assessors should be published with the conditions of the competition.

(2) All competing students should be entitled to submit one name for election to the jury, all such names receiving nomination equal to 25 per cent. of the total number of competitors to be enrolled on the jury.

(3) A written précis of the award to be published (or delivered by a member of the jury).

ROBERT ATKINSON, F.R.I.B.A.,
Director of Education to the Architectural Association.

R.I.B.A. Council Meeting

At the last meeting of the Council of the R.I.B.A. the following business was transacted:

The Ministry of Health and the Scale of Fees for Housing.—The members of the R.I.B.A. deputation to the Ministry of Health reported that a satisfactory agreement had been arrived at with the Ministry on various points connected with the fees for housing work. The terms agreed upon will be published as soon as possible.

Annual Conferences in the Provinces.—A committee was appointed to arrange for the holding of annual R.I.B.A. Conferences in important provincial centres.

Control of Competitions.—A proposal by the Competitions Committee for bringing the allied societies into closer touch with the R.I.B.A. in the control of competitions was accepted by the Council.

Public Lectures on Architecture.—The Council adopted a programme prepared by the Literature Standing Committee for a series of public lectures on architecture by distinguished authorities.

The Royal Gold Medal, 1921.—The Council unanimously adopted the recommendation of the Royal Gold Medal Committee in favour of the nomination of Sir E. L. Lutyens, R.A. (F.), as Royal Gold Medallist for the year 1921.

The Government of Ireland Act.—A letter was received from the Chief Secretary for Ireland indicating the possibility of sympathetic consideration of the proposals put forward by the R.I.B.A. on behalf of the professional and technical division of the Irish Civil Service.

Architects' and Surveyors' Assistants' Welfare Committee.—The Council requested the Practice Committee to confer with the representatives of the Surveyors'

Institution on the proposals submitted by the Assistants' Welfare Committee.

The British School at Athens.—The Literature Committee was asked to consider the advisability of giving further financial assistance to the British School at Athens.

Reinstatement.—Three members were reinstated under the provisions of the by-laws.

The Prix de Rome Designs

The drawings submitted in open competition for the Rome Scholarships in architecture, sculpture, decorative painting, and engraving, 1921, are now on exhibition in the Galleries of the Royal Academy, where they will remain until Saturday, February 19.

Following is a list of the candidates in the architectural section. Those marked * are selected for final competition:

George Checkley, Harry E. H. Higham, Bertram Butler, Frederick Williamson, *Eric R. Arthur (Liverpool University), *S. Roland Pierce (Architectural Association Atelier), Albert C. Holliday, William Elsworth, J. Roland Jones, *Edward W. Armstrong (Architectural Association), Bernard R. Saunders, Walter J. Knight, *William J. H. Gregory (Liverpool University), *Bernard George (Architectural Association), *Bernard A. Miller (Liverpool University), Stephen Welsh, Alfred Koerner, *James H. White (Architectural Association).

A critique of the competition appears on an earlier page of this issue. The adjudicators were Sir Reginald Blomfield, R.A., F.R.I.B.A., Mr. Ernest Newton, R.A., F.R.I.B.A, and Mr. Curtis Green, F.R.I.B.A.

Industrial Council for the Building Industry

At a meeting of the Industrial Council for the Building Industry held last week at Montague House, Whitehall, the resignation of the Council of the Scottish National Building Trades Employers' Federation was recorded. It was pointed out that the reason for this resignation was that the conditions of the building trade in Scotland were different from those in England, and that recommendations were often made by the Industrial Council, on which Scotland had a minority representation, which were inimical to the Scottish building industry. After discussion a deputation was appointed to ask the Scottish employers to reconsider and withdraw their resignation.

The report of the Resettlement Committee, which was adopted, stated that since the last meeting of the Industrial Council in November, only one meeting had been held, that of January 27, called for the purpose of considering the reception of the adult apprenticeship scheme by the adherent bodies of the Council. The committee now found itself in an invidious position. Its advice regarding the augmentation of building trade labour was not being accepted; the scheme for adult apprenticeship had been rejected by an overwhelming majority of the members of the unions, and there seemed every probability that the scheme for the dilution of the industry by 50,000 ex-Service men would also not be accepted. The committee, therefore, suggest that the Industrial Council should take into consideration the present position and determine what further steps should be taken in the interests of the industry, especially in view of the present position revealed by the statistics published by the Registrar-General and of the separate negotiations, which have led, in the opinion of the committee, to the present difficult situation.

The question of "dilution" hardly came up, although at the same time that the Builders' Parliament were sitting a second conference between Mr. Lloyd George, Dr. Macnamara, and Dr. Addison and representatives of the National Federation of Building Trades Employers took place on the proposals for the employment of 50,000 ex-Service men on housing.

It is evident that difficulty is being experienced in finding a solution which will enable the employers to assist the Government in the matter, owing to the uncompromising attitude of the operatives' federation. It is probable that further consideration will have to be given to the scheme, both by the Cabinet and by the joint conference.

The "Efficiency" Exhibition

Efficiency as the watchword of the hour is both inculcated and illustrated at the "Daily Mail" Exhibition now open at Olympia. A tour of the various stands gives one furiously to think, and the layman can only stand amazed before the examples of electrical and mechanical progress here displayed, and wonder, it may be, when they will come into the realm of everyday things, for inquiries very quickly reveal the painful fact that improvement is expensive, perfection a luxury, and many a covetable device is at present far beyond the means of the man in the street.

The reason is not far to seek. The public is, as a general rule, woefully apathetic where its own interests are concerned, and does not take kindly to new ideas. Hence it is that the inventor has to carry on his work with very little support or encouragement, and until a wide demand necessitates heavy production, and consequent cheapening of prices, efficiency is a rich man's hobby rather than a recognised essential.

Olympia is brimful of possibilities, and the publicity given to the Exhibition should go far to educate the public to their practical value as commercial assets. For architects many of the exhibits have a particular appeal. The Economic Building Corporation show, by an excellent series of photographs, the rapidity with which houses are built by their system, and the stand itself exemplifies their method of construction.

All who study lighting methods will be deeply interested in the daylight effects given by the use of the Sheringham system, or of Chance's specially corrected glass, and will appreciate the benefit of obtaining true colour values with an artificial illuminant.

New electrical marvels are displayed by the British Thomson-Houston Company, at whose stand, also, one may study the evolution of the Mazda lamp, and admire the beautiful and dignified lighting effects obtainable in various types of buildings.

E. N. B.

Societies and Institutions

Institute of Scottish Architects.

At a meeting of the Council of the Institute of Scottish Architects, held in Edinburgh, under the chairmanship of Mr A. N. Paterson, the President, nine Fellows and fourteen Associates were admitted, bringing the total number of new members enrolled during the year up to eighty. A draft of the Royal Charter was considered and passed by the Council and will be forwarded to the Privy Council for consideration. On the application of the Ancient Monuments Board for Scotland, a consultative committee representative of the various chapter districts was appointed.

Gothic Architecture.

Mr. W. Bond, F.R.I.B.A., in delivering a lecture on "The Study of Gothic Architecture" at a meeting of the Nottingham and Derby Architectural Society, traced the development in England from Saxon times to the sixteenth century, calling attention to the beautiful window tracery, door heads, and carving to be found, not only in the various cathedrals, but in the parish churches in the district. He also stated that the parish church in the Middle Ages had not the drab and dull appearance inside which so many of them now possessed, but was enriched by means of stained glass delicate stone and wood carving, which was often gilded and coloured. But this had been in many cases ruthlessly damaged or destroyed by the Puritans, often beyond repair. Gothic carvings were never meaningless, and were a subject in themselves.

Town Planning Institute.

Sir H. Trustram Eve, reading a paper on the "Agricultural Belts of Garden Cities" before the Town Planning Institute, said that garden city companies were in a difficult position in trying to provide agricultural belts for garden cities. Their position was difficult because it was necessary that the land should continue to be cultivated, and equally necessary and desirable that the bigger holdings should be let, if necessary, in small holdings. As far as the agricultural belt was concerned, the tenants were annoyed with the garden city for coming near them, and immediately began to farm in a half-hearted way, in the belief that they had no security of tenure. He was all in favour of the belts, but the question was, Could we afford them? He did not favour a trust deed under which an agricultural belt should not be built on.

Ulster Society of Architects.

The quarterly general meeting marked the first occasion on which the members met within their new home in the Scottish Provident Buildings. Mr. R. M. Young, F.R.I.B.A. (president), presided over a large meeting, and in his opening remarks welcomed and congratulated the Society on having obtained such complete and central quarters. The following were elected honorary members of the Society: The Lord Mayor of Belfast for the time being; Mr. Vincent Craig, F.R.I.B.A.; Mr. Ivor Beaumont, M.S.A.; Prof. Reilly, F.R.I.B.A., Liverpool School of Architecture; Prof. Richardson, F.R.I.B.A., University of London School of Architecture; Prof. Abercrombie, F.R.I.B.A. Ten associates and members were added to the strength of the Society. The report of the Sub-Committee regarding the incorporation of the Society was received and adopted, and the Committee was authorised to take the necessary steps to secure this object. The report of the Sub-Committee on Registration was considered, and after a discussion the Sub-Committee were instructed to proceed with the preparation of a Bill to be submitted to the new Ulster Parliament. On the conclusion of the formal business the President entertained the members to afternoon tea. A vote of thanks to the President for his hospitality was proposed by Mr. Seaver, seconded by Mr. Buchanan, supported by Mr. Gilliland, and passed unanimously.

South Wales Institute of Architects.

A large and appreciative audience assembled at the Royal Institution of South Wales, Swansea, for the third of a series of monthly lectures organised by the South Wales Institute of Architects (Western Branch). The lecturer, Mr. W. S. Purchon, M.A., A.R.I.B.A., head of the Department of Architecture and Civic Design at Cardiff Technical College, dealt with "The French Achievement in Architecture," and traced the progress of the art of building in France from Roman times through the Romanesque and Gothic periods to the culmination of the Renaissance in the seventeenth century and the decline in the eighteenth century. He also contrasted the condition of civic planning in France with that in England, and illustrated his points with lantern slides.

The meeting was presided over by the Director of Education for Swansea, Mr. T. J. Rees, B.A., who expressed the hope that the School of Architecture at Cardiff would flourish under the able direction of its present head, and would become second to none in the kingdom. It had the active support of the South Wales Institute of Architects.

The lecture was profusely illustrated by lantern slides, made in most instances from photographs and sketches by the lecturer. The fourth lecture of the series will be given on March 1 by Mr. J. Alfred Gotch, F.R.I.B.A., F.S.A. The subject will be "Domestic Architecture of the Eighteenth Century."

Competition News

High School, Hillhead, Glasgow.

Sir John J. Burnet, R.S.A., assessor in the above competition, has reported that from seventy-eight designs submitted he has selected ten, whose authors will take part in a second competition. The names of the selected competitors are as follows:

W. Naseby Adams, A.R.I.B.A., London, S.W.

Thos. Braddock, Wimbledon.

H. E. Clifford, F.R.I.B.A., and T. M. Lunan, L.R.I.B.A., Glasgow.

John C. T. Murray, F.R.I.B.A., London, W.C.

Charles B. Pearson, F.R.I.B.A., Lancaster.

Geo. Reid and Jas. T. Forbes, Edinburgh.

A. B. Llewellyn Roberts (Messrs. Collcutt and Hamp), London, W.C.

Wm. Ross, Glasgow.

E. Berry Webber, London, W.C.

Edward G. Wylie, A.R.I.B.A., Glasgow.

War Memorial, Gateshead.

The successful competitor in the above competition is Mr. J. W. Spink, of Kingston-on-Thames.

(The following competitions are open: War Memorial, Rothesay; War Memorial, Campbeltown; R.E. War Memorial, Chatham; East Ham General Hospital. For particulars see preceding issues.)

News Items

Weybridge Housing.

Twenty-five houses are to be built by the U.D.C.

Housing at Ashford.

The U.D.C. have accepted a tender for the erection of sixty-seven houses.

New Church for Nottingham.

The foundation stone has been laid of the new church of St. Augustine, Nottingham.

Eighty-Three Houses for Hammersmith.

The L.C.C. proposes to build eighty-three more houses at its Hammersmith estate. Each house will cost £1,150.

New Bank for Bodmin.

Plans have been passed by the T.C. for the erection of new premises by the London City and Midland Banking Company.

Housing at Stroud.

The U.D.C. have resolved to apply to the Ministry of Health for sanction to borrow £45,000 for the erection of houses.

Housing at Gateshead.

The Ministry of Health have sanctioned the borrowing of £200,000 for the erection of the first 202 houses on the Carr Hill Estate.

Leeds Housing Scheme.

The scheme of the City Council provides for the erection of 800 houses, of which it is estimated that 250 will be completed in three months time.

Rotherham War Memorial.

Subscribers to the Rotherham War Memorial Fund have decided to erect a cenotaph, 26 ft. high, of Portland stone, with suitable bronzes, in front of the hospital, and to help extend the hospital by the provision of a new casualty and out-patients' department.

Wigan Estate Purchase.

Wigan Corporation have decided to buy Adlington Hall estate, Lancashire, which consists of over 129 acres, and includes Adlington Hall, the ancient seat of the Clayton family, as well as Adlington Lodge and Worthington Lodge, on the estate, for £4,000 from the present owner, Mr. Daubeny, of South Borsted, Bognor.

£200,000 for Bristol University.

A further sum of £200,000 has been contributed towards the completion of Bristol University by Messrs. George Wills and Henry Wills, directors of the Imperial Tobacco Company. Before the war the two brothers gave nearly £250,000 for the erection of a new front to the university, and since then they have contributed other large sums.

Stirling War Memorial.

Mr. D. Y. Cameron. R.A., LL.D., and Mr. James Miller, A.R.S.A., architect, have submitted a report at a meeting of subscribers to the Stirling War Memorial. The site has been selected, and a lofty monument, with a cross incorporated in the design, will form the memorial. Designs are to be advertised for. Dr. Cameron states that "Too many of the memorials have no symbolism, no spiritual significance."

Woking Development Scheme.

A development scheme, entailing a total outlay of £300,000, is to come before the Woking Council, the Chertsey Rural Council, and the Surrey County Council. It is proposed to develop about 230 acres of the commons at the Horsell end of Woking by laying out a golf course of eighteen holes, football and recreation grounds, and building villas and cottages.

West Hartlepool Housing.

Subject to certain modifications, the Housing Commissioners have approved the proposal of the T.C. to erect a further 178 houses at Rift House by direct labour.

Death of a Sheffield Architect.

The death has occurred of Mr. Edward Holmes, senior member of Edward Holmes and Sons, of Sheffield, architects and surveyors. Born in Sheffield in 1859, he was the son of the late Mr. S. F. Holmes, who was the first borough surveyor of Sheffield. For many years he was closely associated with the extensive street improvements carried out in the City, as valuer and adviser, both on behalf of the Corporation and of private owners.

Latest List of New Inventions

Latest Patent Applications.

3244. Acme Cement Plaster Co.—Forms for building blocks. January 26.
3574. Blake, R. E.—Device for limiting relative movement of sliding window sashes. January 29.
3374. Chambers, R. M.—Sliding glass windows. January 27.
3473. Easter, G. H.—Blocks for securing roses, electric light switches, gas brackets, etc., to walls and ceilings. January 28.
3546. Hill, E. W.—Preparation for polishing marble, etc. January 29.
2996. Matthews, J. F.—Buildings, etc. January 24.

Specifications Published.

157510. Warren, E. J., and Parker, W. J. Machines for making concrete or breeze blocks.
134827. Duffieux, A.—Moulded block for building purposes.
157589. Keel, E.—Machine for the production of hollow building stones.
157597. Knutsen, M. S.—Wooden building elements.
137053. Poulsen, A. M.—Reinforcements for structural members of ferro-concrete.

Abstract Published.

154759. Aldridge, T. A., Ridgmount, R.A.F. Parade, South Farnborough, Hampshire; and Aldridge, J. K. G., Quantock, Beechwood Avenue, Coventry.

The slab or block is provided on one edge with a single row of spherical projections, and on the opposite edge with a corresponding row of spherical recesses, the distance apart of the projections and recesses being equal to the thickness of the slab, so that the slabs may properly engage with one another when used in the building of single walls, or hollow walls, or of walls formed of three or more rows of slabs and comprising both headers ands stretchers. They may also be used for paving or flooring.

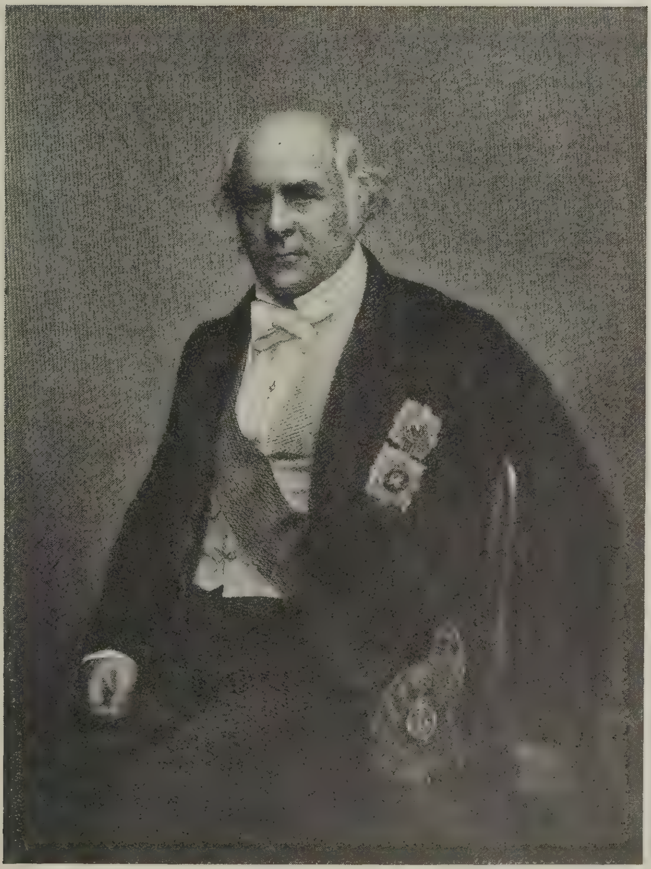
The above particulars are specially prepared by Messrs Rayner and Co., of 5 Chancery Lane, London, W.C.2, from whom readers of this Journal may obtain all information free relating to patents, designs, and trade marks. Messrs. Rayner and Co. will obtain printed copies of the published specifications and forwarded on post free for the sum of 1s. each.

Wednesday, February 23, 1921

Volume LIII. No. 1364

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

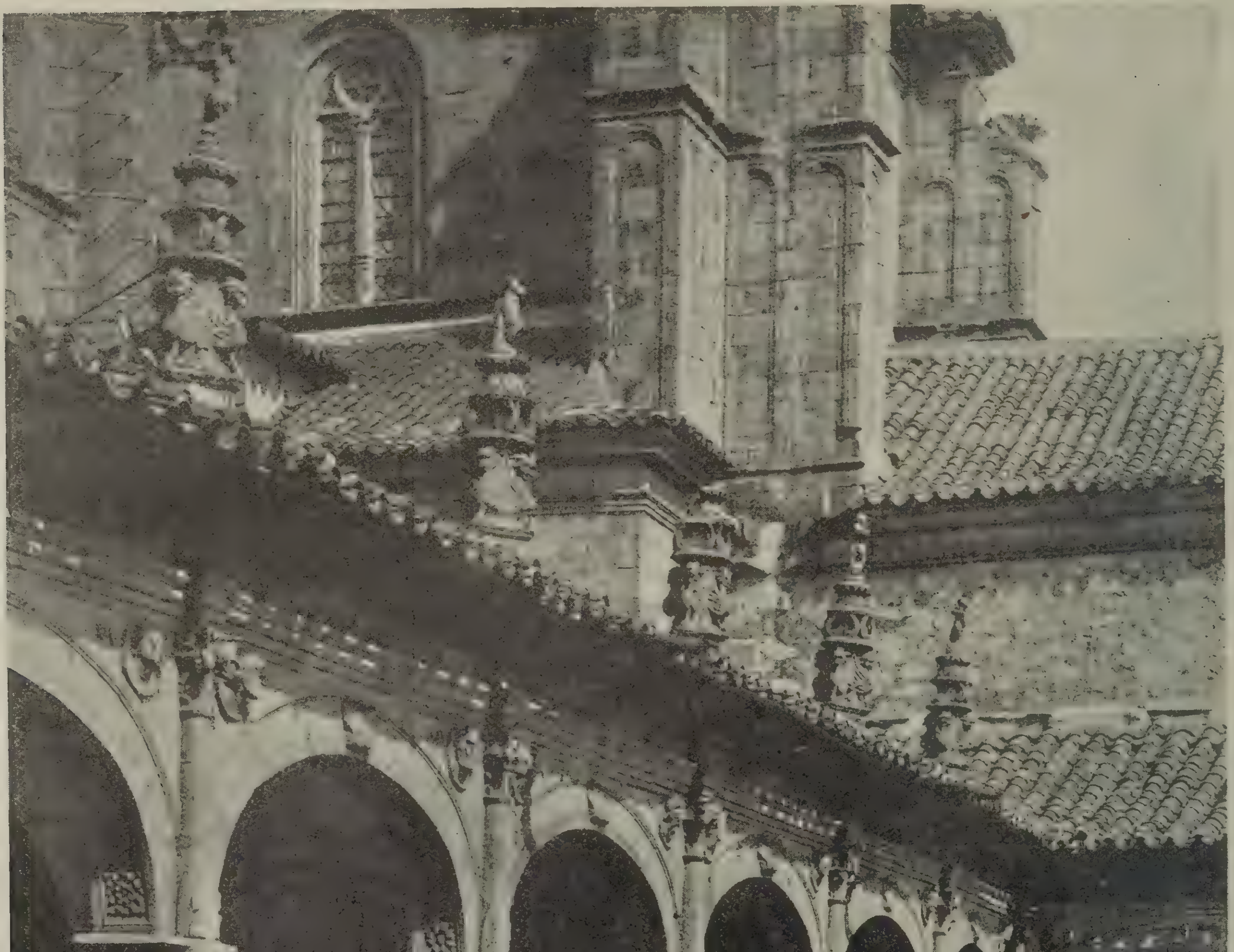


THOMAS BRUCE, SEVENTH EARL OF ELGIN (1766-1841).

Soldier and diplomat, and British Envoy to the Porte, 1799-1803, where he gathered his famous art collection. He brought from Athens the Parthenon sculptures (known familiarly as the "Elgin Marbles") which became the property of the nation in 1816, and are now in the British Museum.

27-29 Tothill Street, Westminster, S.W.1.

College of the Irish Nobles, Salamanca



This is an example of Spanish Renaissance work at its richest. The detail reflects the loquacity of the Spaniard, showing his liking for rich construction and sparkling wit even in architecture. Here is to be seen a rare combination of forms peculiar to the contemporary work of the Italian Renaissance, but changed by contact with a nation of different temperament. Note the use of the Classic pinnacle to relate the cloister to the older part of the building.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, February 23, 1921 Volume LIII. No. 1364

Notes and Comments

Architect as Ameliorator

INDUSTRIAL peace is the only guarantee of national prosperity. By peace is not meant merely a cessation of hostilities. As Sir Robert Hadfield has said—and he never spoke more truly—"One of our greatest needs to-day is that Capital and Labour should learn the spirit of mutual service." So long as Capital and Labour are divided by mutual antagonisms, jealousies, suspicions, so long as each is bent on getting out of the other all it can, and giving in return as little as it can, the two cannot combine for the fullest mutual advantage, but each must continue to injure the other in mind, body, and estate. As Sir Robert says, it is useless for one side to preach to the other—and the preaching is by no means monopolised by the capitalists—only action can be effectual, and the action must be co-operative as between employer and employed. To pit them against each other in rival camps is absurd and uneconomic in the highest degree. Each party has duties towards the other which are but imperfectly fulfilled. "Capital," Sir Robert urges, "must encourage research, educative publicity, staff training, technical and vocational education, civics, and the art of citizenship"; while Labour must realise more clearly its duty to convert "the existing world-shortage of commodities into at least a sufficiency." If the operatives could only be made to see quite clearly how much more is at stake than their own petty self-interest, and could be shown that increased production is necessary not for the individual enrichment of a few capitalists, nor, for that matter, for the benefit of a few operatives, but to raise the standard of welfare all round, they would gladly co-operate in that object, and would work not grudgingly but with a will, taking pride both in the quality and in the quantity of their work. We are particularly gratified by the general tone and tenour of Sir Robert's article (which appeared in the "Pall Mall and Globe" of February 15) because we have always held that this genial and rational method is the most effectual way of handling a subject into which a very unnecessary amount of ill-feeling on both sides is too commonly imported. Someone has well said that a change of heart and spirit is at the present day the world's greatest need. Some few firms of builders are prominent among the employers who are taking wise measures to promote the harmony which is so much more prolific of good work, as well as so vastly more pleasant than jarring discord can be, but the architects, who could do so much to help on the good work, are taking but little part in it. Is this because they are afraid of losing caste? Mingling more freely with contractors and operatives would not have that effect. It would not diminish the respect in which the architect is held, but would increase it, if he were to exhibit to them, and in a manner share with them, the treasures of knowledge and of wisdom which he has accumulated. These treasures would increase by his freer association with the practical men who have to interpret his conceptions, and it would be a great gain to him to see his work from their point of view, as well as a great gain to them to know more of his mind than what is conveyed at second or third hand on a working drawing. All the workers know how impartial, how disinterested is the position he occupies, and his word in season, whether on economics or on craftsmanship, would be greatly respected by them; and even in this casual manner he might become a powerful influence for all-round betterment, and for the promotion of more rational views. Sir Robert Hadfield heads his article "Mutual Service: Our Duty to Ourselves," and this expresses exactly the consummation at which a cordially reunited building industry should aim with steady persistency. Through the independence, enlightenment. and refinement of its army of architects, the building industry enjoys an enormous advantage over most other aggregations of producers; but unfortunately architects do not exercise as freely as they might the fine readiness of the Clerk of Oxenforde—"Gladly wolde he lerne and gladly teche." They could do much, even in these decadent days, to restore to the building industry, and through that to industry at large, some of the ancient nobility which, through an excess of Industrialism, Capitalism, Trade-Unionism, and probably a few other ugly -isms, it has lost awhile.

London University Site Again

It was quite in order for Captain Swinton to raise last week, in the London County Council, the question whether Holland Park would not be a better site than that at Bloomsbury for London University. The L.C.C. will be called upon to subscribe heavily to the building fund, and has therefore a distinct right to have a voice in the matter. Many newspaper writers have coquetted with Captain Swinton's proposal, which, however, seems to be based either on a slight misconception of the character of London University, or on a desire to modify that character rather considerably. London University has not been hitherto residential. It has not been regarded as a teaching university, but as a legislative and an examining body. Its various colleges, affiliated to it rather loosely, and enjoying plenary autonomy, are scattered through London and the suburbs, and it is in these colleges, of course, that the teaching is done. Supposing, therefore, that the University is to maintain its original character (but there is no reason why it should not develop and expand into something bigger and stronger), there is no need to introduce (via Holland Park) the subject of playing fields and sylvan promenades, nor even, on the other hand, to lay very much stress on the proximity of the British Museum. The one thing certain is that both advantages cannot be combined. Doubtless a college, or some colleges, will be accommodated in the new buildings at Bloomsbury; public subscriptions would hardly be lavished on a scheme for housing the headquarters staff and equipping an examination hall. To fulfil these functions nobly would be ample justification for the outlay, but the appeal would be somewhat lacking in pungency. Possibly research laboratories of national utility would fulfil all the requirements of the situation. Those educationists who seem so very anxious that Holland Park shall be acquired need not despair. If, as they declare, it could be bought cheaply, it might serve as the site of a new affiliated college.

An Ill-chosen Site

It is a profound pity that persons in authority do not set more value on architectural advice. Last December, a model for a proposed war memorial was placed in College Green, Gloucester, and the Gloucestershire Architectural Association saw reason to protest against the site. The protest having been disregarded, the Association is again, through its hon. sec., Mr. William Leah, stating the grounds of objection. "My Council," Mr. Leah writes, "consider the site unsuitable, as encroaching on the already very confined space as compared with several of our great cathedrals, and they feel that it would form a very dangerous precedent. They therefore protest in the strongest possible manner against any structure, particularly one of the height now proposed, being erected in College Green, opposite the south front of the Cathedral." It is added that everywhere there is a strong endeavour to secure open spaces round important buildings "so that their beauty of line and massing may be fully appreciated," and it is hoped that, before any irrevocable step is taken, another site may be found for the Gloucester memorial If this reasonable, authoritative, and dignified protest is slighted, the Gloucester burgesses should demand to know the reason why. In all such cases, the local authority should at the very outset seek the guidance of the local architectural association, not give it occasions for protest after the mischief is done. Gloucestershire Architectural Association is to be congratulated on its public spirit in thus protecting no sordid interest, but the interests of art and amenity.

Royal Society of British Sculptors

It is good to hear that several architects were invited to the dinner held on February 14, by the Royal Society of British Sculptors, and that a few gave themselves the pleasure of mingling with the band of sculptors who are already famous, who on this occasion really seemed to outnumber those who have yet to win celebrity. More architects will attend on the next occasion. They will have three excellent reasons for accepting—(1) The success of the present meeting will allure them; (2) the Society will have grown in importance; and (3) architects are feeling it increasingly incumbent on them to promote the *entente cordiale* between two arts which should seldom or never work independently the one of the other. Rightly conceived, sculpture is an adjunct to architecture, and can never, even in its most poetically creative flights, be entirely independent of it. Conversely, architecture, to be great, must call in the aid of the sculptor. Indisputably the two arts are best seen in association. It is therefore logical as well as amicable that the architect and the sculptor should occasionally dine together! Founded in 1904, the Royal Society of British Sculptors would ere this have seen much greater expansion, but for the intervening years of devastating war. It has in it, however, all the elements of strength and vitality, and the utmost prosperity may be predicted for it, if only it will steer clear—as we have no doubt it will be easily able to do—of cliques, fads, and petty jealousies, and devote itself heart and hand and soul to the promotion of the noble art for which it stands.

A Link with William Blake

Sir William Blake Richmond, R.A., whose death was announced last week, was christened "with intent." George Richmond, the father of the artist whose death we now deplore, was himself a Royal Academician, and was, moreover, "one of a little band of enthusiasts who worshipped at the shrine of that extraordinary genius William Blake," and named his son in memory of him. Sir William, who was elected R.A. in 1895 and knighted two years later, spent his energies very freely in the public service, running a-tilt against various forms of public abuses. In the interests of architecture and the other arts he waged incessant warfare against the smoke nuisance, and his utterances against smoke-grime were occasionally very exhilarating specimens of vigorous invective. He was the founder of the Coal-Smoke Abatement Society. For many years he was an energetic member of the Hammersmith Borough Council, and in 1904 he was chosen as an alderman of the London County Council. In these assemblies he, of stalwart mien and profusion of tawny hair, was rather an extraneous figure, but he set an example of zealous citizenship which, if it were more commonly followed by persons of artistic training and perception, would prevent many civic sins of ignorance. Sir William's own unpardonable sin was the treatment of the apse of St. Paul's Cathedral with glaring glass mosaics, which was about the most ghastly mistake that an artist could make, the style of the decoration being utterly unsuited to the character of the cathedral. Architects, however, could almost find it in their hearts to forgive this awful indiscretion for the sake of his fine series of sketches in oils done in Italy and Greece. These are of considerable architectural value, of high technical skill, and fraught with fine feeling. Nor will his fine series of portraits be soon forgotten. It was, in fact, as a portraitist that Sir W. B. Richmond was seen at his best.

The Royal Exchange Chimes

During the past week the newspapers have given a surprisingly large share of attention to the renewal of the chimes at the Royal Exchange. A whole column of "The Times" was given up to the subject, and the article was illustrated with musical scores! This lavish publicity may be regarded as all to the good for architecture, the chimes calling attention to the building. Beyond recording the "quarters" in the manner of the Cambridge or Westminster chimes, the bells now installed play three different tunes every day of the week, including Sunday, when three hymn-tunes are given. No doubt it has been ascertained beforehand that the turret of the Royal Exchange building is strong enough to withstand the strain of the new installation. With change-ringing, of course, towers and turrets are apt to be pulled to pieces, and it has often happened that an excellent peal has had to be silenced because of the instability of an ancient belfry. Indeed, the frequency of this disability led to the invention of an ingenious expedient. A firm of bell-founders have produced a steel frame which, fitted inside a bell-tower, gives it a fresh lease of life, the frame not only bearing off all the weight of the bells, but actually strengthening the tower. As there seems to be a decided revulsion—of which the case of the Royal Exchange is but one instance out of very many—from the long silence which the war, with its brutal air-raids, imposed so long on bell-ringing, architects are being freely consulted as to the stability of the towers, and as to the installation of bells, and will doubtless like to be reminded that an illustrated description of this bell-frame appeared in "Specification" for 1915. We are informed by the publishers, however, that this volume has been long out of print, but that a file copy may be consulted in the Architectural Reading Room at 29 Tothill Street.

The Rome Scholarship in Architecture:

The Need for Reform

By LIONEL B. BUDDEN, M.A., A.R.I.B.A.

It is probable that only in England would a system be tolerated so illogical as that under which the Rome Scholarship in Architecture is annually awarded. If it were no worse than illogical, if it functioned, as so many British institutions unquestionably do function, fairly satisfactorily in spite of its being unjustifiable in strict theory, then there might not be any very pressing reasons for urging its reform. But such is not the case. The conditions governing the competitions for the Scholarship are fundamentally ill-conceived, defective in their operation, and harmful in their results. As the Rome Scholarship is acknowledged to be the most important prize open to students of architecture in the Empire, it is not a matter of slight moment that there should be serious grounds for complaint against the whole method by which it is administered.

The responsibility for administering the Scholarship rests upon a Faculty consisting of ten architects, some of whom are Royal Academicians, and others distinguished members of the Institute. It is this Faculty which sets the subjects for the preliminary and final competitions for the Scholarship, determines the provisions that control the competitions, and judges the work submitted.

Objects of Competitive Tests

We shall consider first the Faculty's policy as exhibited in the general scheme of the competitions. We may assume that the purpose of any such scheme is to ensure the Scholarship being won each year by the candidate who, on the intrinsic merits of his own individual work, most deserves to win it. It will then be agreed that the consequent objects of a series of competitive tests devised to achieve this purpose should be: —

(1) To eliminate all but the best candidates before the final competition is reached.

(2) To eliminate them by a process which, whilst it ensures a fair chance being given to every competitor to show his ability, yet demands from each in the preliminary stages a minimum expenditure of energy, time, and money.

(3) To lay down such regulations regarding the conditions under which the various competitions are held, that it will not merely be difficult, but practically impossible, for candidates to obtain *in the main conception of their designs* any kind of help, or to be influenced, however involuntarily and indirectly, by the work of other candidates.

(4) To preserve strictly the anonymity of the work submitted, so that its authorship is not known to any member of the jury.

How far does the scheme initiated by the Faculty and put into operation with its approval secure these ends? Let us take the first of the objects in view—the elimination of all but the best candidates before the final competition is reached.

The Rome Scholarship in Architecture is open without reservation to all subjects of the British Empire under the age of thirty. With so wide a field of entry, a series of at least three tests should be imposed if there is to be any guarantee of the competence of those candidates chosen for the final trial. Actually two separate competitions, and two only, are held, the first lasting approximately six months, the second three weeks. In the first candidates are permitted to resort to architectural libraries from which they may obtain complete solutions of the problems set them. In the second, they work (first day) *en loge*, and are obliged, without any kind of external assistance, to commit themselves to the main lines of a design, by which they are required to abide under penalty of disqualification. The result of this system of examination is that every year there are competitors in the last phase who prove completely unable to justify their selection—a direct and inevitable consequence of that selection being based on evidence that is unsatisfactory in two vital respects. It is insufficient because it is obtained from only a single previous test. It is unreliable because, the use of books being allowed to candidates from the start, the jury cannot be sure to what extent the work shown is authentic and to what extent it is derivative. At present the total number of entries for the preliminary competition is comparatively small. This year it amounted to no more than eighteen. But that number is in the near future likely to increase considerably as architectural education improves and expands. If the double test in its present form is still maintained the evils that now characterise it will then be aggravated. A situation could easily be conceived in which all the candidates selected as finalists might, when faced with the task of producing a design *en loge*, be found to be incapable of originating anything worthy of serious consideration; whilst amongst those rejected in the preliminary test there might be some possessing real individual ability. But the latter would fail to be placed because their work was their own and lacked the adventitious qualities of that submitted by competitors whose whole capabilities were limited to a faculty for plagiarism. As the conditions of the preliminary competition now stand there are no means of discovering in the initial stage of the contest which candidates should on their own merits be allowed to proced to the final test and which should not; and the unfortunate possibilities foreshadowed have, in point of fact, already occurred to some extent on every occasion on which the competitions have been held.

So far we have regarded the question of elimination from a juristic point of view. Let us now consider it as it affects the candidates themselves. Their interests are largely bound up with the second of the aims specified as forming an indispensable part of an efficient and just system for the administration of the Scholarship. They must be selected or rejected by some process which offers them a reasonable opportunity to show what they can do, and which yet does not involve them in a great deal of labour and expense in the initial stages when the prospects of ultimate success are most uncertain.

How the Tests should be Arranged

Accepting this position, it will be obvious that it implies that the series of tests to be undergone should be arranged as a crescendo. The first, though it must be adequate for the formation of a judgment on elementary fitness, should be the shortest and the slightest. It should not necessitate the preparation of drawings many in number or large in size. The test which succeeds it should be more exacting. But only the third, and last—when the list of candidates has been reduced to the final minimum, and when the chances of success are greatest—should make really heavy demands upon the capacities and time of the competitors, or involve them in any considerable financial outlay.

The scheme adopted by the Faculty precisely reverses this order. Under its provisions, the longest test, the one for which the largest, most completely finished, most numerous, and most costly drawings have to be made, is placed first. And every year the final competition comes as an anti-climax with automatic certainty—for the work done in three weeks *en loge* cannot be compared in amount or quality with that which has been produced, with every facility to consult books and drawings, over a period of six months. This year, for example, most of the drawings submitted in the first competition are of great size. Seven of the sets—the work of provincial students—comprise each a mounted plan measuring seven by eleven feet, and five other drawings, also mounted, and measuring, on an average, four feet by six. The cost of the strainers and the transport to London must have ranged in these cases from £15 to £20 per set.

It has been argued in defence of the policy which imposes these burdens upon candidates at the outset, that the Faculty does not want huge and complicated drawings expensively mounted, that it would much prefer to have submitted to it designs of simple character and moderate size. Candidates in general are quite unaware of this predilection—if it exist—and in any case can scarcely be expected, in view of the great length of time at their disposal, to refrain from yielding to the temptation to increase the dimensions of their drawings and to elaborate them to the highest degree in the hope of impressing the jury. Nor is this hope without some justification in the past decisions of the Faculty, for it has on more than one occasion admitted candidates to the rank of finalists on no other apparent grounds than the size and elaboration of their preliminary designs. The first competition, as at present constituted, virtually invites those who enter for it to subject themselves to a prolonged and exhaustive strain, and to incur expenses that must in some cases be nearly prohibitive, whilst it offers only the most remote prospects of ultimate reward. A system which does this cannot really be defended; it shows too little consideration for the interests of candidates, serving only to discourage many possible competitors from entering at all, and inflicting upon those who do enter and are unsuccessful needlessly severe hardship and disappointment.

Inadequate Provisions

The third object to be secured is that the designs presented in each round of the competition should be absolutely authentic in origin—that is to say, that in their main conception they should be the unaided and uninfluenced work of the candidates who submit them. Under the existing scheme the Faculty ensures that this is so in the final test, for the conditions of that test demand that on the first day a solution of the problem set must be arrived at *en loge*, and preserved for the information of the Faculty. If a design, as it is ultimately developed, departs in any material respect from the original sketch, the author of it is ruled *hors concours*. But no such arrangement is made by the Faculty in the case of the preliminary competition. As far as the latter is concerned it is simply laid down that the subject set must not form part of any course of training in a school of architecture—so that no instruction may be given on it—and candidates are merely required to make a written declaration that the drawings which they present are their own unassisted work.

The inevitable consequences of provisions so inadequate and so liable to infringement and misinterpretation were patent in the work submitted in the preliminary competition this year. Students executing their designs in schools of architecture, and seeing each others schemes develop over a period of six months, cannot be expected not to absorb, however unconsciously, fundamental ideas from each other. The drawings produced under such conditions are apt to acquire a family likeness that is not entirely to be explained by the circumstance of their authors having been trained at the same institution. This similarity, marked enough in the recently exhibited work of some of the unsuccessful candidates, amounted almost to identity in three of the selected schemes. In basic conception they were identical, and two of them sustained that identity throughout most of the elements of their respective elevations. All these three schemes were the product of one school. They might be taken as being, with slight modifications, that particular school's solution of the problem—and incidentally a very competent, mature solution. They appeared to represent a collective contribution to the subject—not to be three separate and essentially different interpretations of a theme that was in reality capable of very varied treatment.

Now it is obvious that the phenomenon here presented may easily be construed to constitute a precedent of the most unfortunate kind. It may quite conceivably lead to the Rome Scholarship in Architecture being contested for not by individual candidates, but by schools; and in the heat of the struggle the staffs of the schools may find themselves unwittingly involved as participators. With whatever intention the Scholarship was founded it was certainly not established to bring about that situation. But unless the whole question is frankly faced by the Faculty, and the conditions governing the preliminary competition radically altered, that is what will happen.

The last of the list of elementary pre-requisites, put forward as necessary to the proper administration of the Scholarship, is that the anonymity of the work submitted should be rigidly preserved. Members of the Faculty should not merely have no previous knowledge of the authorship of each individual scheme. They should not know from what school—if any—it comes. At present it is perfectly possible for members of the Faculty to see in Schools of Architecture drawings being prepared for the preliminary competition and to be well acquainted with them before they are presented for judgment. This possibility should be eliminated.

Remedy for Administrative Defects

By what means can the defects that we have considered in the administration of the Rome Scholarship be remedied? By the adoption of a scheme of which the principal features shall be:—

(*a*) Three successive tests.

  (i) A preliminary test *en loge*, lasting twelve hours.

  (ii) A second test lasting one week, on the first day of which candidates shall be required to produce a sketch *en loge*, this sketch to be covered by tracing-paper, and the latter sealed down so that the jury may compare the original sketch with the candidate's scheme as finally presented in every case.

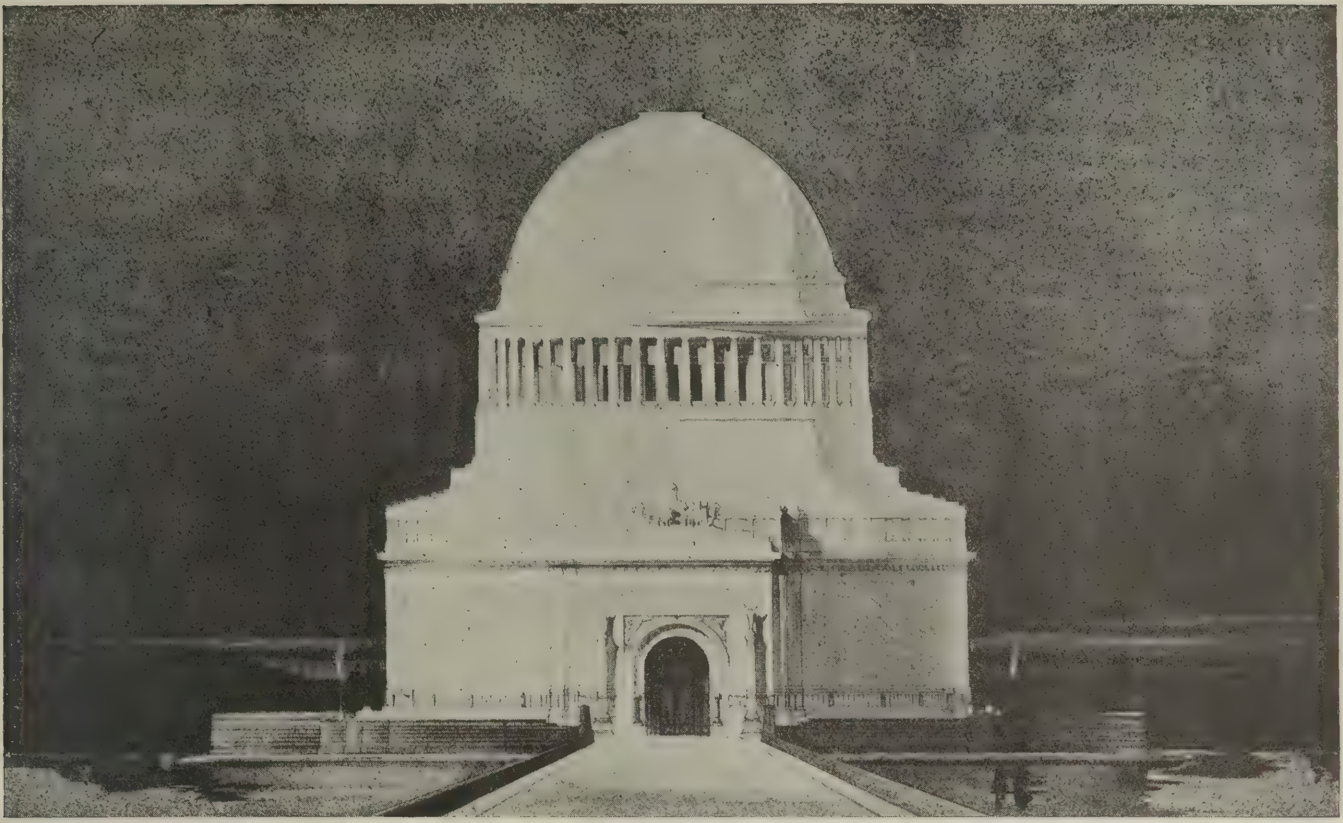
  (iii) A final test lasting one month, in which an *esquisse* will be produced *en loge* on the first day and preserved for purposes of comparison, as in the second competition.

(*b*) The conduct of the first and second tests under authorised supervision at certain specified centres throughout the Empire: the conduct of the final test under authorised supervision in London.

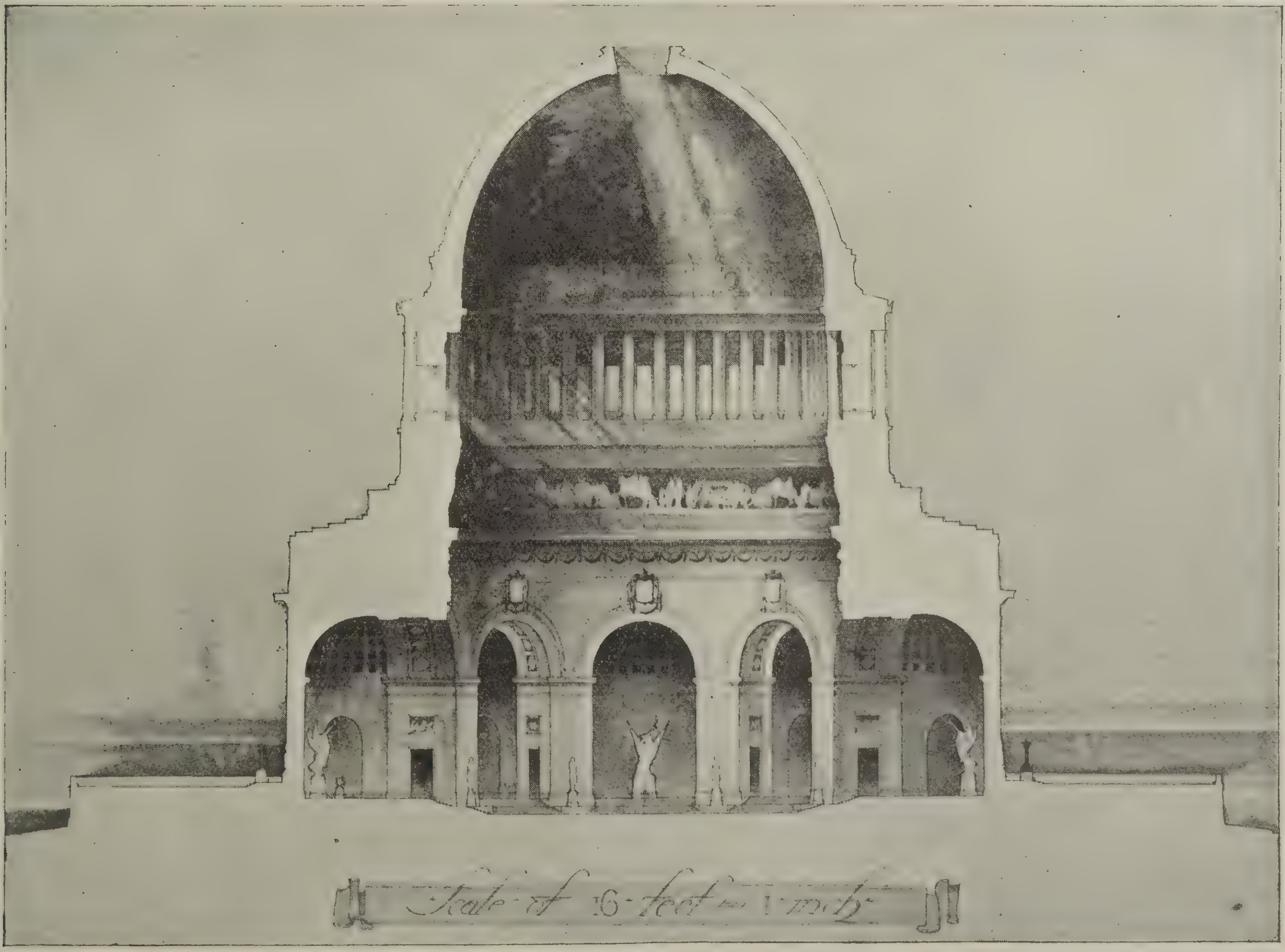
(*c*) Intervals of four to five months between the tests to permit colonial candidates to take part in the competition.

(*d*) A maximum of twenty candidates for the second test, and of ten for the final.

(*e*) A proper gradation in the tests, the last to be the most difficult.

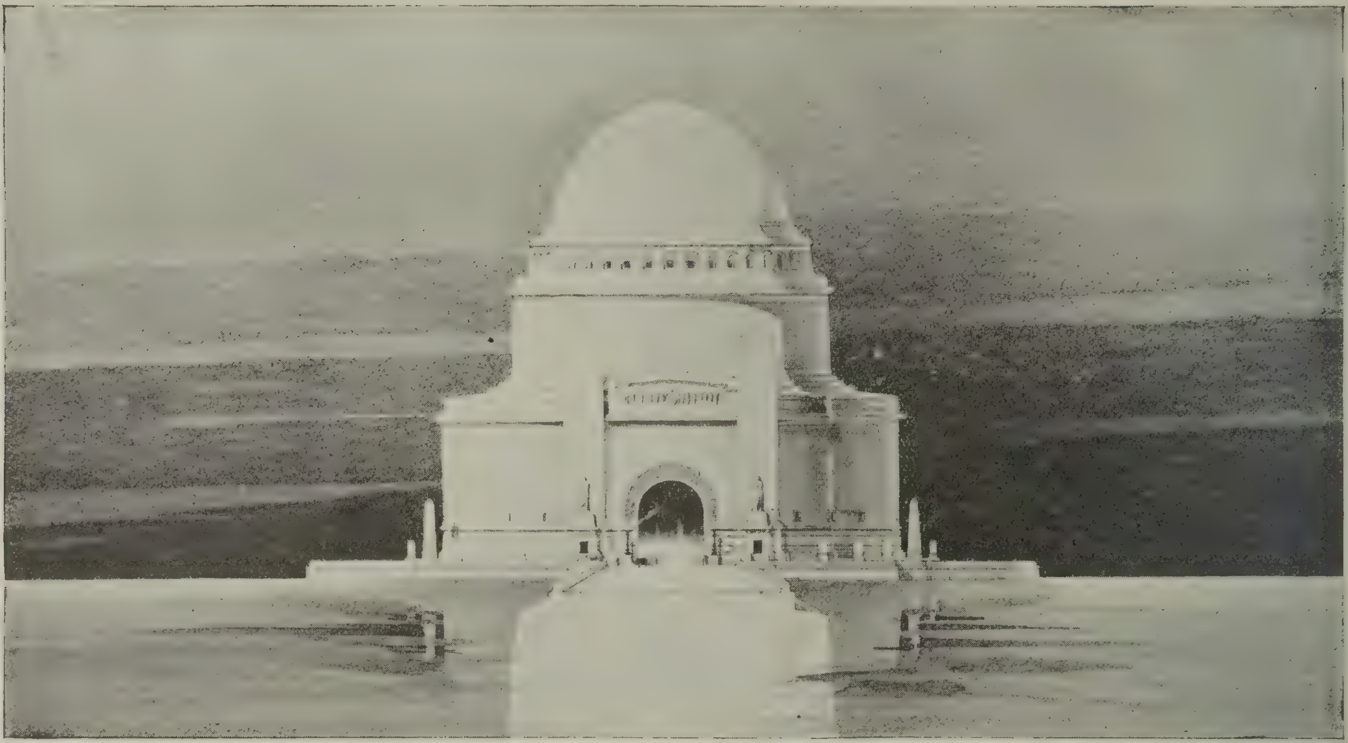


Elevation.

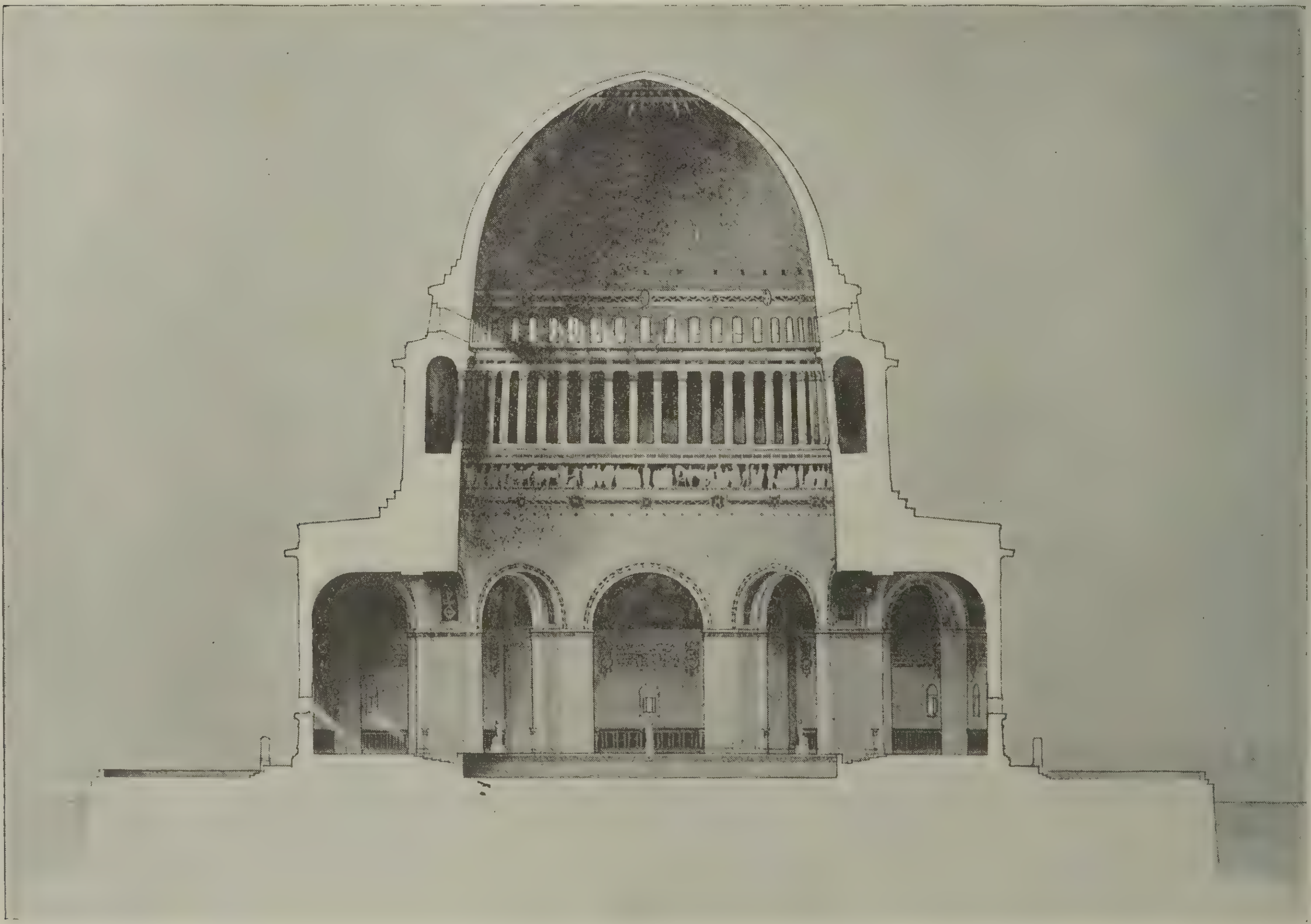


Section.

PRIX DE ROME COMPETITION IN ARCHITECTURE: DESIGN SELECTED FOR FINAL COMPETITION.
BY BERNARD GEORGE (ARCHITECTURAL ASSOCIATION).



Elevation.



Section.

PRIX DE ROME COMPETITION IN ARCHITECTURE: DESIGN SELECTED FOR FINAL COMPETITION, BY JAMES H. WHITE (ARCHITECTURAL ASSOCIATION).

(*f*) In the final test, after candidates have committed themselves to the main lines of their schemes, the employment of junior assistants permitted for repetition work, provided that such help can be shared equitably amongst all the competitors.

(*g*) All designs in each test designated by pseudonyms and transmitted to the Faculty under seal.

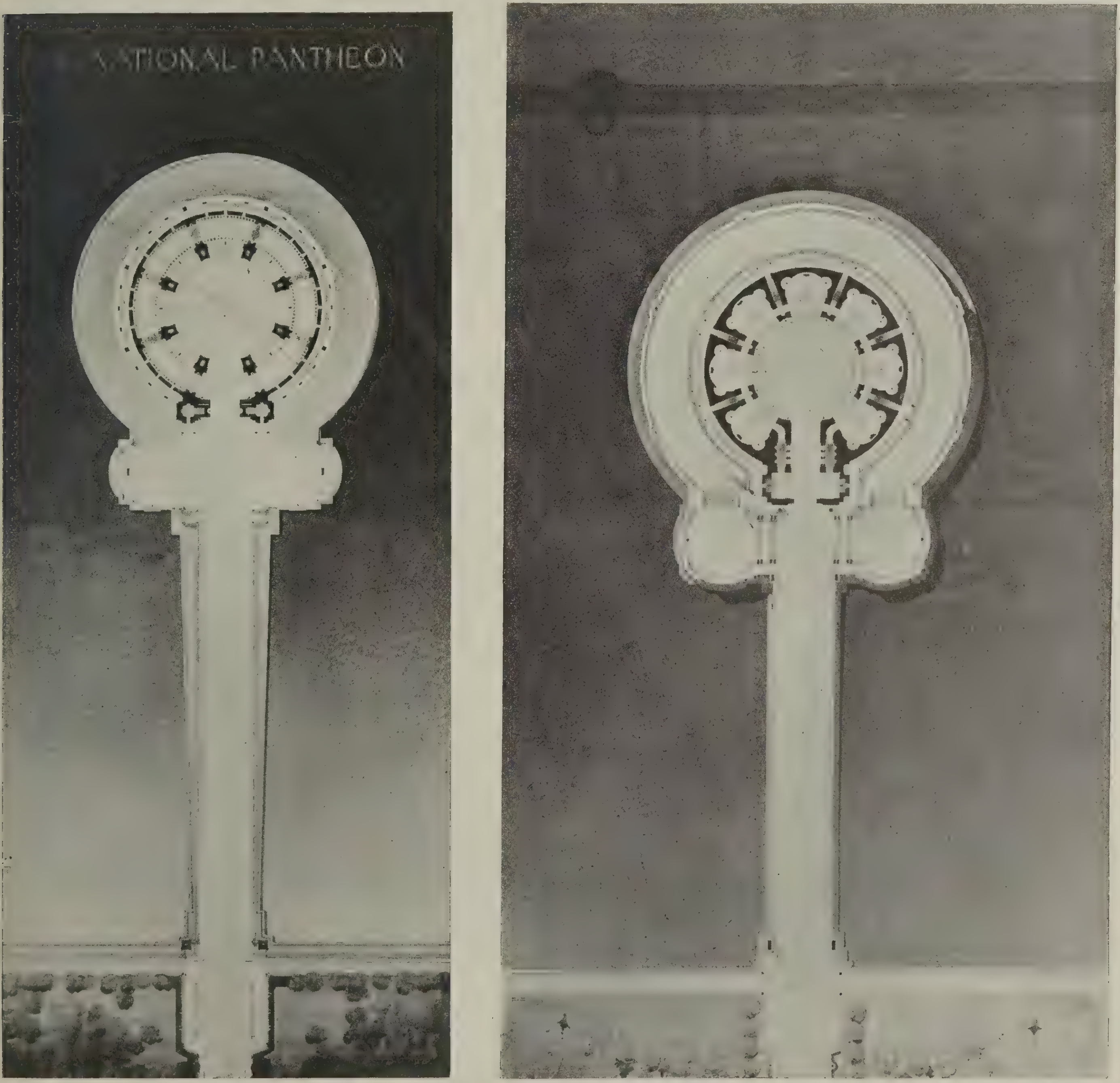
(*h*) All *loges* closed throughout each test to members of the Faculty, no drawings being at any time open to their inspection before the official view.

If this plan were followed it would completely meet the objections that have been raised against the existing system. There would be absolute certainty that the work produced by candidates at each stage was essentially their own. Only the most competent would reach the final test. The final test itself would form the natural climax of the series, and would produce the largest volume of work, and the most advanced. Candidates, unsuccessful in the preceding competitions, would not have been put to unreasonable trouble or expense, and the possibility of the judgment of any member of the Faculty being coloured by previous knowledge of the authorship of any of the work presented would no longer exist.

Nowadays it is fashionable to decry French methods in architectural affairs. The programme advocated may therefore be opposed in some quarters, because it is thought to resemble too closely the system whereby the Prix de Rome is awarded in France. We are urged at all costs to be British, and to do things our own way. The question, however, is not one of being either French or British, but simply of being efficient. In this particular matter the procedure devised in Paris works satisfactorily*; ours does not. If we borrow what is

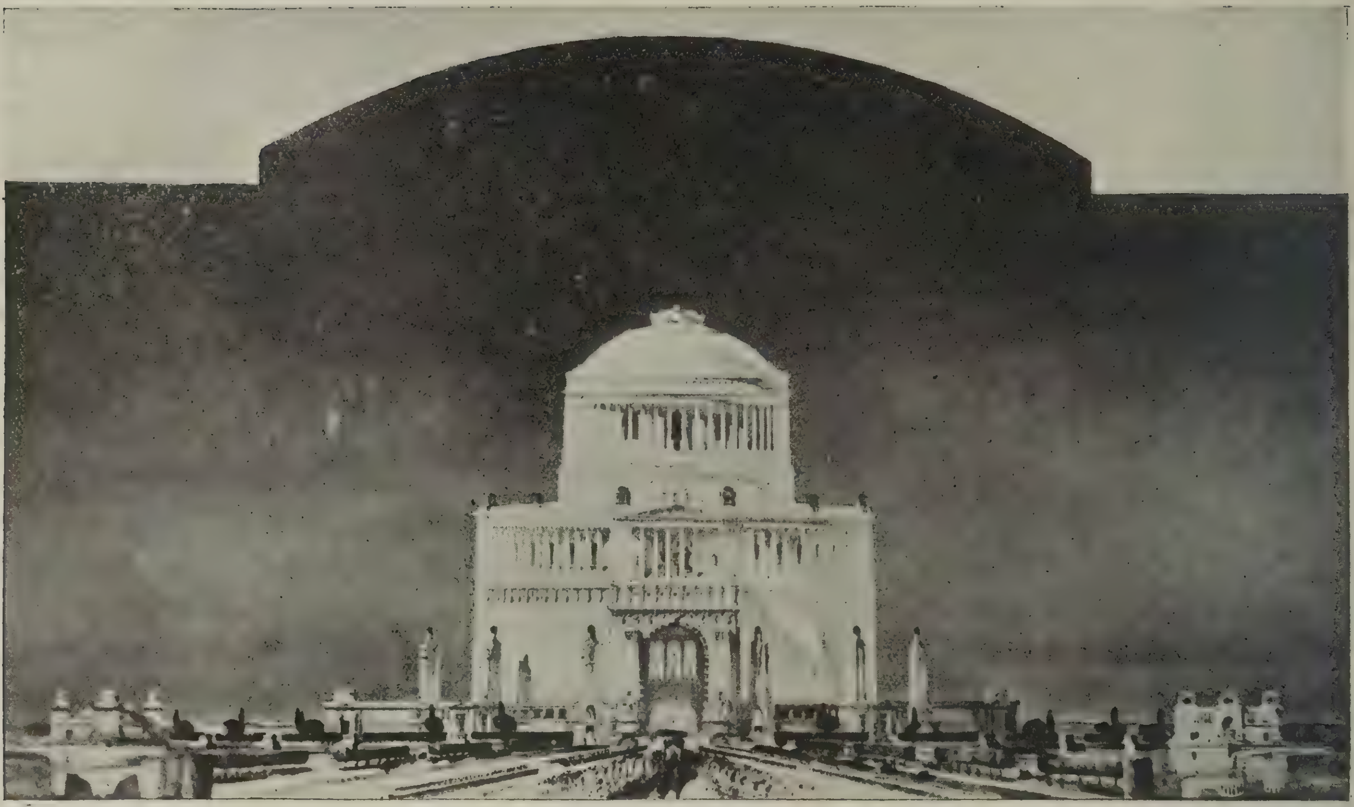
---

* It may perhaps be advisable to point out that the difficulties that occurred this year in the administration of the Society of Architects' "Victory Scholarship," which is organised on the model of that of the Prix de Rome, were not due in any way to the machinery employed.

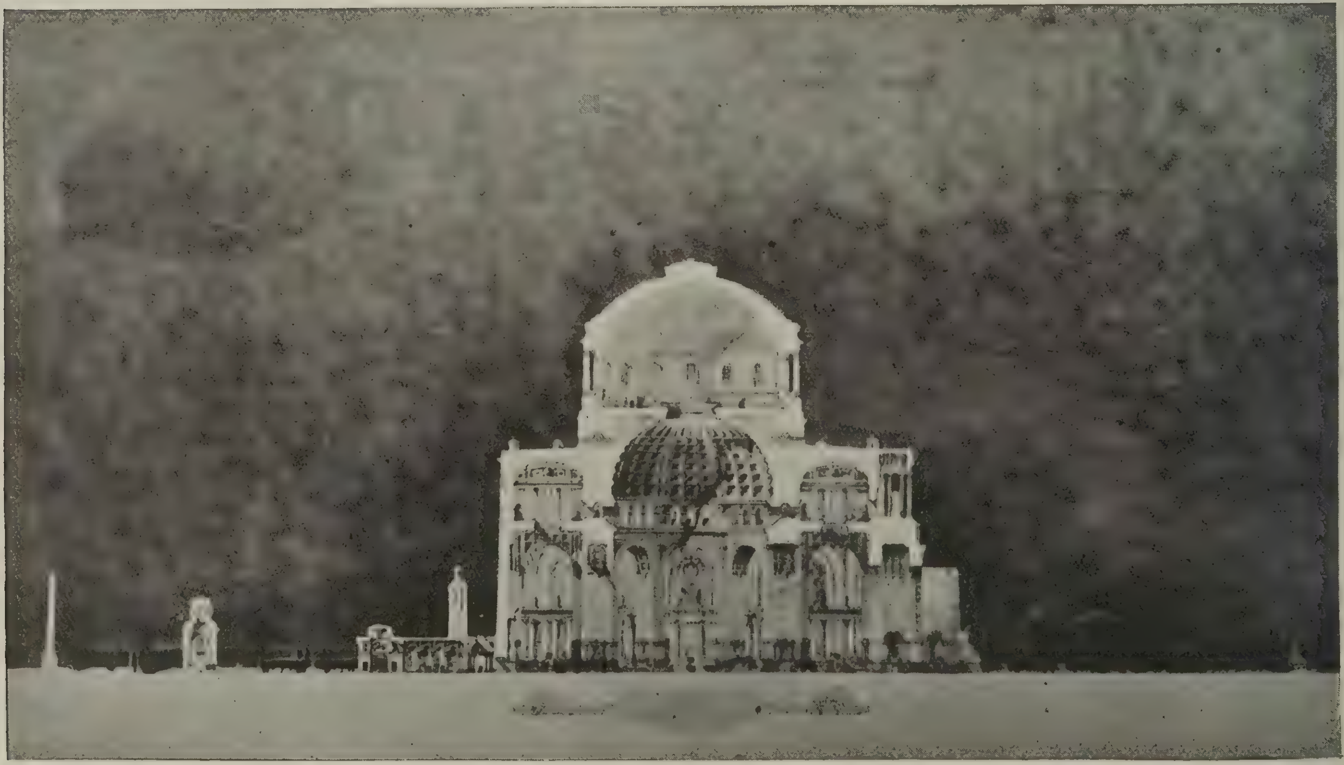


By James H. White (Architectural Association). By Bernard George (Architectural Association)

PRIX DE ROME COMPETITION IN ARCHITECTURE: PLANS OF DESIGNS SELECTED FOR FINAL COMPETITION.



Elevation.



Section.

PRIX DE ROME COMPETITION IN ARCHITECTURE: DESIGN SELECTED FOR FINAL COMPETITION.
BY BERNARD A. MILLER (LIVERPOOL SCHOOL OF ARCHITECTURE).

simply an effective administrative method, it need not have the result of denationalising our architecture.

There remain one or two points regarding the practice of the Faculty in judging designs to which it may be well to direct attention. The Faculty comprises ten members. Of these four attended the meeting called for the purpose of assessing the last preliminary competition; and only three of the four actually reviewed the work and voted on it, the fourth member voluntarily standing down as a teacher with interests involved in the results. Last year and the year before it is reported that the attendance at meetings convened for the assessment of the designs in the preliminary and final competitions was little or no better. This frankly is not good enough. In certain instances non-attendance may have been unavoidable through illness or absence abroad, but those reasons can scarcely cover all the cases. Appointment on the Faculty of Architecture is — as it should be — a coveted distinction. Members of the profession who accept it should be prepared to justify their right to the honour by fulfilling the duties which are associated with it. But every year those duties are said to be left to devolve upon a conscientious minority. Assuming that this is so, it is surely time that a rule were passed by the Faculty of Architecture, requiring an adequate quorum—say at least sixty per cent. of the total membership of the Faculty—for the transaction of business at any meeting of that body. The enactment of such a provision migh lead to a number of resignations, and the places left vacant could very profitably be filled by younger men more closely in touch with, and having greater interest in, the present-day training, aims, and methods of candidates.

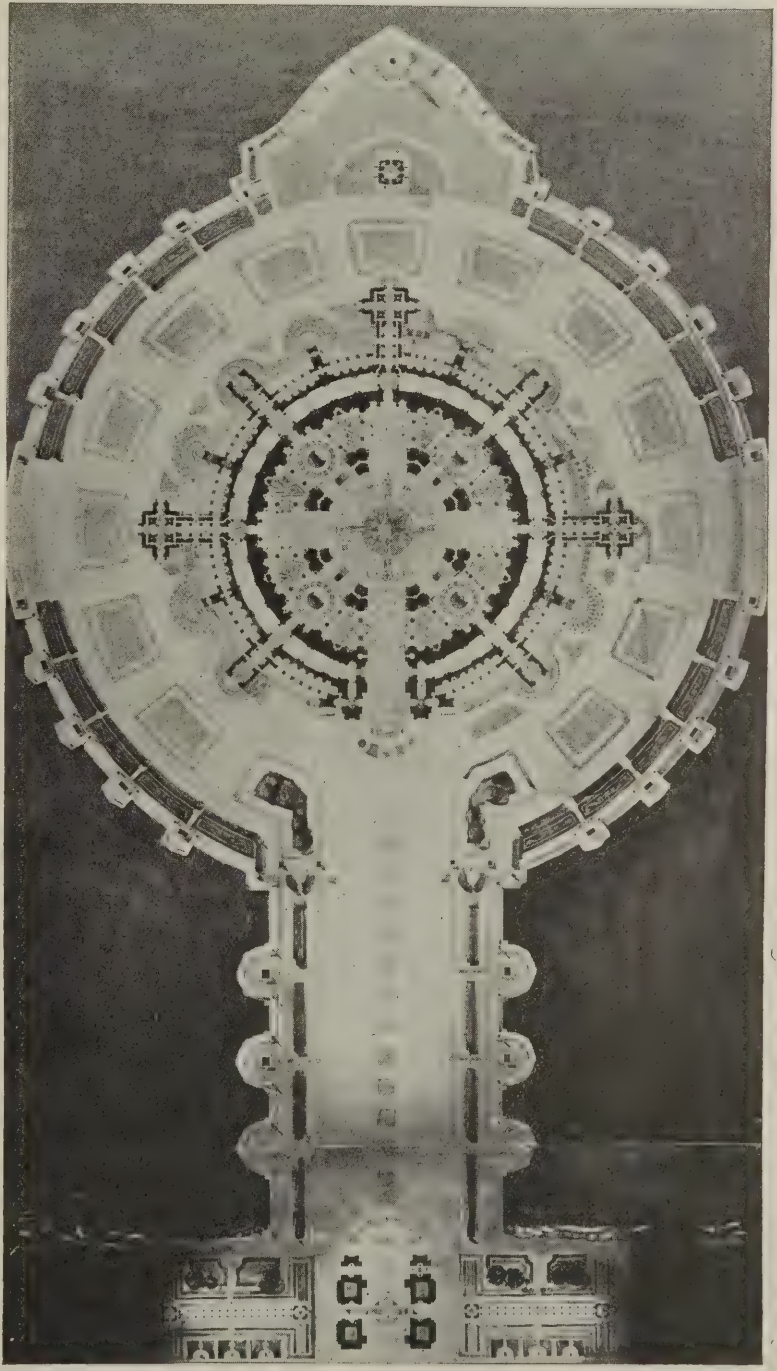
The Faculty's practice in judging the work presented is commonly known to be to spend one afternoon over the business, and to finish it in that time. In Paris fourteen days are devoted to the judgment of the drawings submitted for the Prix de Rome—the jury returning again and again to the task. It is true that the schemes with which the French assessors have to deal are far more mature in every way, and demand much more serious and detailed consideration.* But the disparity between the work produced by the British and by the French candidates, great though it is, is still not so great that the one can rightly be dismissed in two or three hours whilst the other requires at least a fortnight's careful study.

Rumour asserts that the Faculty, before judging the designs presented in any of the competitions, does not hold a preliminary meeting to determine its collective view of the chief needs to be satisfied in the particular programme set; that no considered conclusions are first formulated in writing by the jury for its own guidance in choosing and eliminating designs (and especially for the guidance of jurors, who, though unavoidably absent from the preliminary meeting, may be able to be present for the assessing of candidates' work), but that the members of the Faculty for the first time state their individual opinions as to the proper interpretation of the subject whilst engaged in looking at the drawings. If that is the case, it would seem urgently necessary that the Faculty should consider the advisability of amending its practice in this respect also, and of publishing, together with the announcement of the award, a reasoned statement setting forth the grounds on which the award has been made and the standards of judgment applied.

**Note.* When architectural education is systematically and completely established throughout the Empire it should then be possible to restrict the entrance to the Rome Scholarship competitions to post-graduate candidates, and the difference between the standards reached in London and Paris would no longer be so marked—might, indeed, not be marked at all.

The Prix de Rome Designs

In our last issue we published four of the designs selected for final competition for the Rome Scholarship in Architecture, together with a special critique by Mr. Stanley Ramsey, F.R.I.B.A. This week we reproduce the remaining designs. The exhibition, which was held in the galleries of the Royal Academy, closed on Saturday last. There are seven competitors for the final competition, which will resolve into a duel between the Architectural Association and the Liverpool School of Architecture.



PRIX DE ROME COMPETITION IN ARCHITECTURE: PLAN OF DESIGN BY BERNARD A. MILLER (LIVERPOOL SCHOOL OF ARCHITECTURE.

Architectural Causerie: George Papworth

ONE likes to be reminded occasionally of the careers of architects who contributed much, especially qualitatively, to the domestic and civil architecture of their time. There is a fascination in recapitulating biographical and architectural facts that seem in some danger of passing into oblivion, and I have no doubt that the pleasure and profit I have had in setting down this week a few particulars about so prominent a figure as George Papworth will be shared by my readers. George Papworth was the third son of John Papworth, a leading London stuccoist in the latter part of the eighteenth century. George first saw the light at Gt. Portland Street, Marylebone, on the ninth day of May in seventeen hundred and eighty-one.

* * *

After leaving Dr. Thwackem's Academy at Hammersmith, the embryo architect became, at the age of seventeen, a pupil in the office of his elder brother, the famous John Buonarotti, who had been instructed in architecture by Sir William Chambers, and had afterwards assisted John Plaw. George, profiting by his brother's experience, acted as his clerk of works until the year before Trafalgar, when he left to take up the direction of the practice of one Mr. Kershawe, at Northampton. Two years later we find him making his way to Dublin to superintend the manufacture of stone pipes patented by Sir John Wright.

* * *

While engaged in Dublin, George married: and, leaving the affairs of the stone-pipe company to take care of themselves, he turned his attention first to the design of a sawing machine, and later to an improved form of hydraulic pump. George, however, had not forgotten his earlier associations with architecture, for we find him in the year eighteen hundred and eight designing for a Mr. Macklin a Gothic entrance, in response to the mediæval tastes of this client, who had a sympathetic regard for the romance of Ireland. This essay in architecture was productive of good results for George, his work bringing him the patronage of Lords Gormanstown and Westmeath. George, now a man of thirty, was in a position to attract the notice of his brother professionals in Dublin, for we find him far too ambitious to accept an offer, put before him by two of the leading architects in Ireland, of two hundred and fifty pounds a year for seven hours' work per day.

* * *

Prosperity evidently attended his labours, for he described himself in the year eighteen hundred and twelve "as one rich enough to have bad losses." During the next six years George became very popular with his Irish friends, who regarded his amiable temper and wit to be truly Hibernian. They even put up with his fiery outbursts when he was asked to deviate from any designs which in his opinion were unalterable.

* * *

It should be remembered that Papworth began practice in Dublin at a time when Gordon was still the leading authority on taste, and when the memory of Sir William Chambers still influenced public opinion. There were, however, certain new-fangled notions regarding Greek detail reaching Dublin about this time from the sister country, and it was upon the correct application of the slightly Greek crinoline to the fully-developed Palladian body that the reputation of George as an artist depended.

* * *

In the year 1818 George Papworth designed the library in D'Olier Street, Dublin. He gave it a fine astylar façade of Dalkey granite. Then followed the Court House at Castlebar, County Mayo, finished in the year 1822. At this period—1822-26—the reputation of Papworth was firmly established among the Irish aristocracy. We find him designing Portumna Castle, County Galway, for the Marquis of Clanricarde, and Kilconnan House in the same county for Sir Thomas Redington.

* * *

In the year 1827 George Papworth fired the euthusiasm of his professional friends in Dublin with his designs for the King's bridge across the Liffey. Immediately after completion, his bridge was made the subject of numerous engravings, and perhaps on account of its excellence Papworth was, in 1831, elected a member of the Royal Hibernian Academy. Other works designed by Papworth include buildings of the first rank, such as the Marlborough Street and the Whitefriars Chapels in Dublin. Later we find our architect again devoting his attention to large country mansions, such as Brennanstown, County Dublin, and Seafield, County Sligo.

* * *

In the year 1840, when Papworth was chosen Treasurer to the Academy, he was invited to design Kilkenny Lunatic Asylum for the Commissioners of Public Works. The remaining six years of his life (he died on March 14, 1855) were spent superintending such works as the Museum of Irish Industry, Stephen's Green, including the well-planned lecture theatre. In addition to many other activities, George Papworth acted as architect to the Dublin and Drogheda Railway, and also to the Royal Bank in Foster Place. Practically the last work upon which he was engaged was Kenure House, now Rush Park, County Dublin.

* * *

The authorship of the elegant design of the houses built during the early 'thirties of the last century in Dublin, particularly those in the neighbourhood of Harcourt Street, Pembroke Road, and Kingstown, had been long a matter of speculation with me. I have ascertained, however, that George Papworth fathered most of these designs. It is a known fact that one Turner, a builder, of Dublin, copied Papworth's designs; and as this man engaged in vast building speculations, the fact that many of the streets bear the impress of Papworth's style is not surprising.

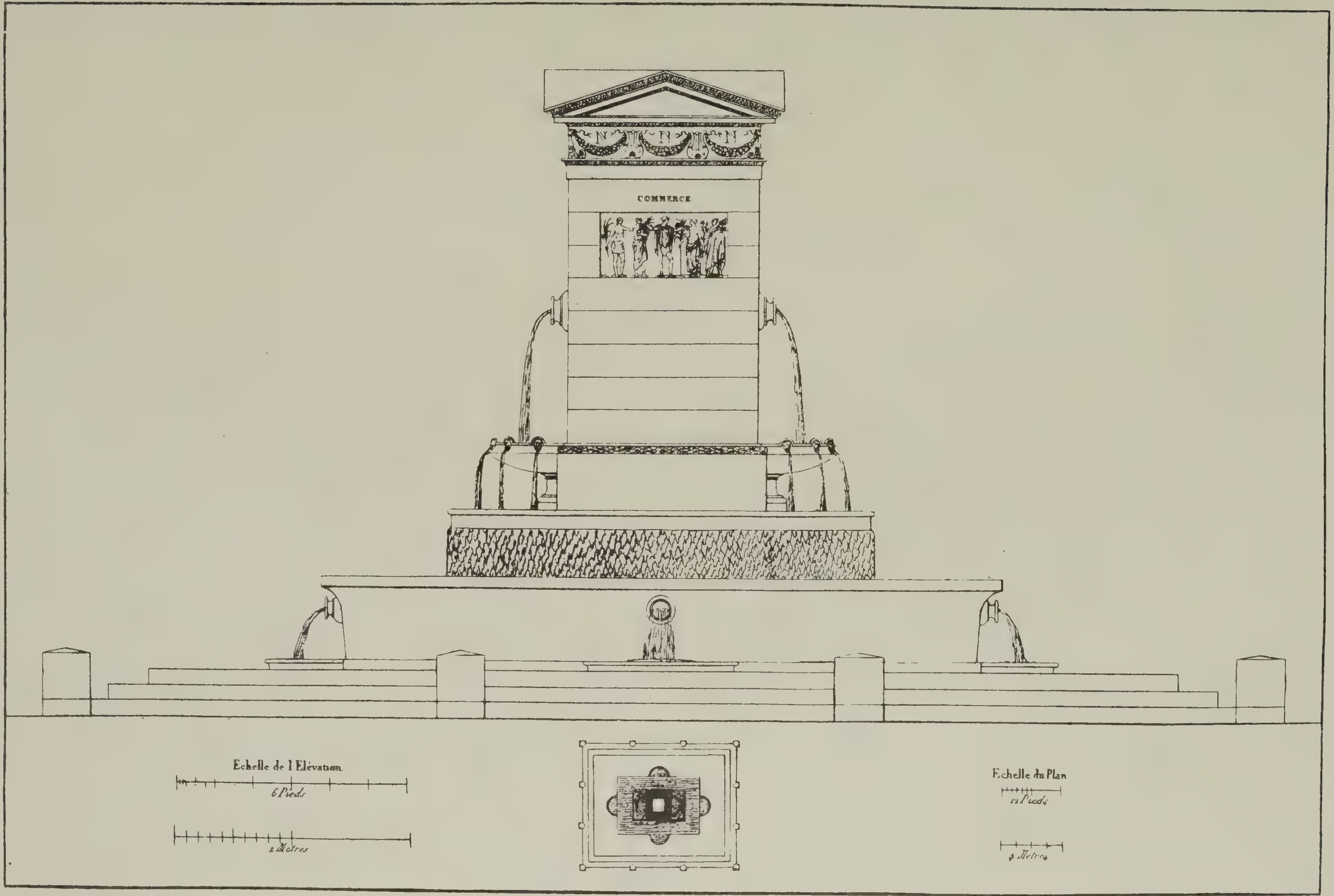
* * *

Papworth's terrace tradition in reality perpetuated the theme of the older Dublin streets in a manner expressive of the new age of mechanics. "He was," according to contemporary report, "the first architect of his time to introduce a note of modernity, combined with decorative effect, into the Irish capital." During several holidays I have studied his executed works, and, from prints and original drawings, have gathered some idea of his skill as a draughtsman and a colorist, and, further, I have learnt from the records of his contemporaries something concerning his skill as a constructor, in which capacity he frequently acted as his own clerk of the works. Once, so the tale hath it, Papworth designed and erected an extensive warehouse, built on the sand by the side of the Liffey below Dublin, and this building sank bodily about eighteen inches without requiring any repair or attention beyond the adjustment of some ironwork, for which preparation had been made. The career of George Papworth forms a strong link in the Irish building chain. Much that was formerly obscure is now seen to be related. By studying the work of Papworth and his imitators we can note the sequence that persisted from the time when the exploitation of the North lots tempted Gandon to the period when Carson, the speculative builder, turned his attention to the fashionable suburb of Donnybrook, and subconsciously borrowed some of Papworth's ideas, including the broad entrance steps of granite.

AERO.

Fountains. 4.—Fontaine de la Paix, Place de Saint-Sulpice, Paris

Destournelles and Voinier, Architects



This fountain—a typical example of Empire work—was erected about the time of the signing of the Treaty of Amiens—hence its name. Rectangular on plan, it comprises a central obelisk rising from three tiers of basins mounted upon a stylobate of three steps. A four-way pediment crowns the obelisk, which has a frieze composed of garlands of fruit interlaced with lyres and the Imperial N. The bas-reliefs (of which there are four) are in white marble, and consist of allegorical figures symbolising the arts of peace.

Enquiries Answered

Current Prices of Timber.

W. B. H. writes: "(1) Am I right in taking the standard of timber in your current Prices of Materials as being the London Standard = 270 F.C.? (2) Could you give the price of timber at per foot cube each week?"

—(1) Yes. (2) The suggestion of our querist will in future be adopted.

Distempering a Chapel.

SUBSCRIBER writes: "I am erecting an oak tablet as a war memorial in the chapel of a preparatory school. The chapel is a timber-framed building lined with matchboarding, and part of the war memorial scheme is the decoration of this building, which at present has no redeeming features. Can you tell me of an inexpensive distempering?"

—A plain surface could be secured by covering the matching with a coarse lining canvas and a stout lining paper. The surface of the matching should be thoroughly cleaned off and prepared, so that the canvas will adhere to it. W. S. B.

Coloured Drawings.

L. C. writes: As an admirer of the beautiful drawings of Mr. H. Chalton Bradshaw, A.R.I.B.A., of the 'Restoration of Præneste,' and, indeed, of all his exquisitely rendered designs which have been on view at the R.I.B.A. from time to time, I should be glad to know whether he would give me the following information: (1) The quality and manufacturer of the drawing paper used; (2) the names of the chief colours, such as the predominating yellows in his 'Præneste' drawings; (3) the name of the manufacturer of the colours used. Would you also state which are the best water colours for artistic drawings?"

(1) Any quality and any manufacturer. (2) Any colours, not too many; preferably three. (3) Any good manufacturer. There is no secret recipe, as far as I know, for the production of coloured drawings.

H. CHALTON BRADSHAW.

Wood Worm in an Oak Church Roof.

A. G. T. writes: "What is the latest method of dealing with 'wood worm' in a church's oak roof? The purlins, principals, and carvings of the roof are badly worm-eaten, and the affected parts are to be cut out and reinstated with new timber. It will be desirable in some cases to refix some carvings which have been less severely affected, and I desire to find out the most modern means of destroying the worm in these portions, of preventing the possibility of its reappearance, and of treating the whole of the roof. Apparently coating with turpentine, petroleum, etc., were until a few years ago the practice, but I learn "Formalin" has been tried recently, but with what success I am unable to ascertain."

—The so-called worm holes are really the result of the energies of a beetle which bores through the timber, and the great drawback to a liquid application for destroying these pests is the difficulty in reaching the insects away from the surface unless the chemical is applied under pressure. Formalin spraying has been tried with apparent success at St. Mary Abchurch and Westminster Hall, but the permanent results will only be ascertained after the lapse of sufficient time to give an opportunity for noting the effects of the application. A great factor in the preservation of timber is efficient ventilation, and care should be taken to see that this is effected. W. S. B.

Estimating the Cost of a Building.

H. C. writes: "We are taking part in a competition in which the instructions to competitors stipulate that an estimate of cost of the building must be provided. Can you tell us what the usual procedure is? We can, of course, make a very rough calculation, but do not think we are sufficiently in touch with prices to give a reliable estimate."

—The usual method of obtaining an approximate cost is to take the cubical contents of the building and price it at a figure per foot cube, but if a most accurate estimate is thought necessary, rough quantities could be taken off a price by means of the current prices quoted in THE ARCHITECTS' JOURNAL. In cubing a building where there may be a certain number of underground rooms apart from the main structure, this portion of the work should be kept separate from the superstructure and priced at a higher figure to cover the greater expense of such work. If the pre-war figure per foot cube for a similar type of building is multiplied by 3½ or 4, according to the local conditions, the result will be the approximate price per foot cube at the present time. W. S. B.

The Building Exhibition

The final arrangements for the Building Exhibition, which is to be held at Olympia from April 12 to 26, are now being completed. Every inch of space was allotted before Christmas, yet applications are still arriving at Messrs. Montgomerys' offices by every post. These, needless to say, can only be considered for the exhibition which is to be held in 1922.

A feature of the forthcoming show will be the architectural arrangements, organised jointly by the R.I.B.A. and the Society of Architects, who are to be congratulated upon the wisdom they have shown in thus joining forces. During the run of the exhibition a series of important meetings will be held in the Conference Hall, where also, we understand, there will be an exhibition of architectural drawings.

This year the Annexe will be entirely occupied by machinery in motion—concrete mixers, wood-working machinery, brick-making plant, marble-working machinery, electric lifts and plant, and so forth. The adoption of the grouping principle is a move in the right direction, and if it could be applied generally to the exhibition, the gain in convenience would be very considerable.

Many firms who have never shown at the exhibition before will be present this year, as well as some who have not exhibited since the war.

A useful tip to exhibitors is given by an architect in the current issue of the "British Clayworker." He suggests that exhibitors with a limited staff should have an enquiry box fixed on their stand so that architects can leave their cards and obtain catalogues and prices without wasting the time of the exhibitor.

Three special issues of THE ARCHITECTS' JOURNAL will be published during the exhibition. Full particulars of these will be announced later.

Correspondence

The Importance of Washing Sand

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The useful and very able article on "Sand-washing Apparatus," published in your issue of February 2, must have appealed to a great number of practical men, for how little do some builders understand the value of good washed sand! Twenty years ago I found myself in the village of Broxbourne, in Hertfordshire, and noticed a garden attached to a workman's house, which was most unique and interesting. It was almost like a Japanese garden, for not only was it filled with rocks and rock-loving plants, but everything was miniature and most charming.

I was told that the owner worked for Pulham and Son, the garden craftsmen of London, whose Pulhamite stone works are at Broxbourne. This workman had evidently in his spare time busied himself by making this remarkable garden—remarkable to me because the rocks were made of cement and sand, and were so similar to natural rock that I must confess I had to examine closely the work before I found this out. My informant was a Broxbourne builder who understood something about cement. He told me that Pulhamite stone was burnt in a kiln, but he said Pulham's also used cement with which they imitated stone, and their cement-work was better than any he had ever seen. He attributed the success to the washing of the sand, and instanced the fact that the foreman always tested the sand by going to the washing tub and taking a glass of water from the top. If it were the least cloudy the sand had to be rewashed.

Everyone who knows anything about cement understands that you cannot make good cement work with mud; if the sand is very fine in grain it is little better than mud; it must have some coarse grains in it. If there is earthen matter in the sand it is even more objectionable than "hourglass" sand or fine sea sand, or silver sand, all of which are too fine for good work. A little consideration will show why fine sand is useless. Portland cement should fill the voids in the sand, and so hold the sand grains together, while the surplus cement will bind the coarser aggregate together. Some sand which I have examined will go through a sieve or screen with 50 by 50 square meshes to the inch. Twenty years ago cement was considered good if it passed through such a fine sieve. Fifty thousand (50,000) tons of cement were used on Chatham Dockyard in 1870-80, which gave a residue of 25 per cent. on a 50 sieve. (Cement should go through a 76 mesh sieve to-day.) It is apparent that when the sand grains are as large as the cement grains that there must be a loss in the strength of the resultant work.

A rendering is nothing more than a miniature concrete, and therefore it requires some of the larger aggregates as well as some of the finer particles. That is to say, the best sand is graded from ⅛ in. down to dust, with more of the coarse grains than the fine grains.

I have known more than one instance where very fine sand has been used for a wall rendering under the delusion that because it was fine it would make better work. Sometimes the setting has been so extremely slow that the builder has blamed the cement manufacturers, and yet the cement has been the very best. The cement manufacturers in this country are doing very good work in drawing builders' attention to this fact in their circulars and booklets. It is necessary continually to repeat these facts, because every day schoolboys become apprentices and every day apprentices become artisans.

J. H. KERNER-GREENWOOD.

February 15, 1921.

Architectural Students' Competitions

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Robert Atkinson's letter on the subject of architectural students' competitions and their assessment, published on page 198 of your last issue, is very valuable in calling attention to an aspect too often disregarded by the authorities. It appears almost as if these authorities have in course of time, probably by precedent, evolved a habit of appointing themselves or each other without consideration of the needs of the times or the particular competitions to be set or assessed. This may be taken to apply also to competitions not confined to students, so that in neither case is it the invariable rule for the award to go to those deserving it.

The qualifications for good assessment are rarely combined in one individual, hence the desirability of the jury system, which is now coming to be more generally adopted, which is all to the good. These qualifications are so various that they would take more space to describe in the confines of a letter than is permissible, but they may be briefly summed up. The first qualification is vision—unlimited by the area comprised within the four pins on a drawing board. Others are ability to make allowances for other people's points of view, competitors or jury, without overriding or being overridden by any strong-minded or misguided member; ability to grasp the underlying principles and ideas of competitors; to recognise what they are endeavouring to express and the ability to judge the worthiness of both the basic ideas and the expression of them; the ability to disregard brilliancy of draughtsmanship where necessary and to be undeceived by it, and, in students' parlance, to be able to recognise tripe as tripe; to be sufficiently acquainted with historical competitions and examples as to be able to know at least from where the student obtains his precedent and if he is abusing it, or, better than all, has been creating precedent; the gift of remaining a student himself, of being constructive, and not destructive, in his judgments, and of exercising his judicial faculties without bias to one school of thought or another, and to recognise, what is so often overlooked by the judicial mind, that evolution is ever a factor of civilised progress and being.

Qualification for assessment is not being a member of any particular club, or a committee, or council, of being a Royal Academician, or the son of his father, or a prizewinner A.D. '86. It is not a corollary that a successful architect, clubman, committeeman, councillor, R.A., architectural Japhet, or essayist is necessarily either a good architect or assessor.

Assessors should be more closely in touch with the student than all these Olympians—and who more so than the leaders of thought amongst the masters?—some of whom at least should have a voice on juries much more frequently than they do, especially in students' open competitions such as "The Rome."

SIXPENCE WEEKLY.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I will not enter into controversy with Mr. Atkinson on the points that he raises: he may be right or wrong in his views, and few things are too perfect for amendment; but I suggest to him seriously that his right course is not to publish his criticisms in the Press when he has in his own hand the means for securing all that he wishes.

The Institute prizes are awarded, not by any jury of assessors, but by the Council of the Institute, which is a body elected by all the members. The Board of Architectural Education advises the Council on matters relating to the prizes, and if Mr. Atkinson had criticisms or suggestions to offer his obvious course was to bring them before the Board of which he is a member, knowing quite well that full weight would be given to any proposals made by him. If he failed to convince the Board he could deal with the matter in the Council, of which also he is a member. He has every opportunity of knowing the names of those appointed to study the work sent in for the prizes, of revising the conditions that he describes as arbitrary and slipshod, of amending the programmes that he objects to, of securing the publication of lists of names, and of excluding assessors whose selective ability does not seem to him to be up to the standard that he desires.

He advises students not to compete except under conditions which he outlines, but he has not brought these conditions before the notice either of the Board or the Council.

As regards his claim for students' work to be dealt with by young men who have sympathy with the attitude of the student, may I remind him that, in the very committee that he particularly refers to, out of a total of eight members there was only one who could not be described as a young man, and he is at the head of one of the architectural schools. As a matter of fact he was not present. All the others were men who are well known for their active interest in schools and students.

The Press should be used for the discussion of broad matters of principle; questions of administration are better dealt with in the bodies that are concerned with them.

ARTHUR KEEN, Hon. Sec. R.I.B.A.

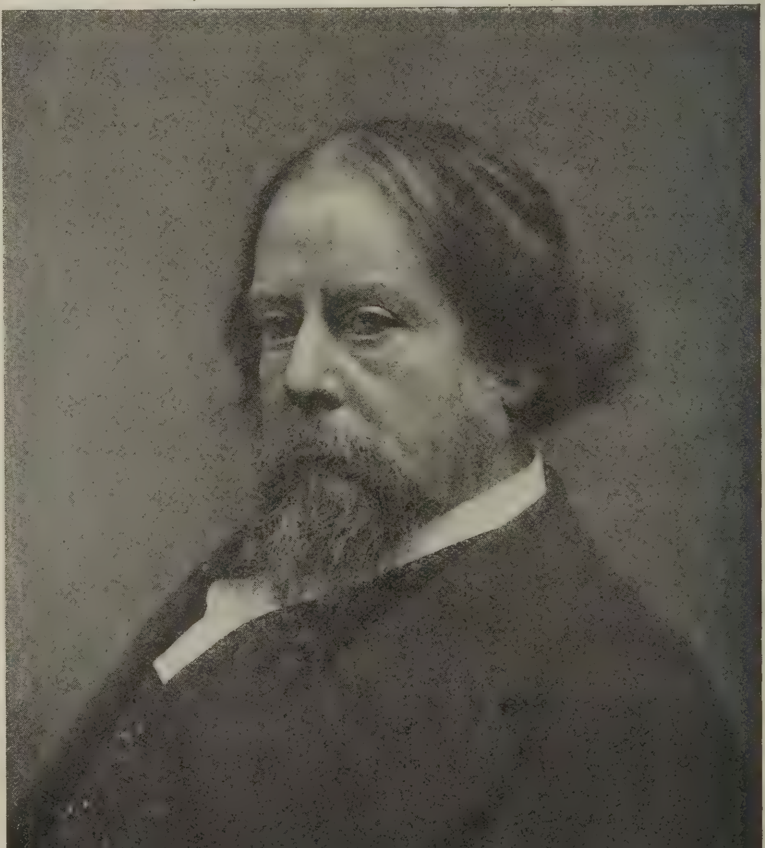
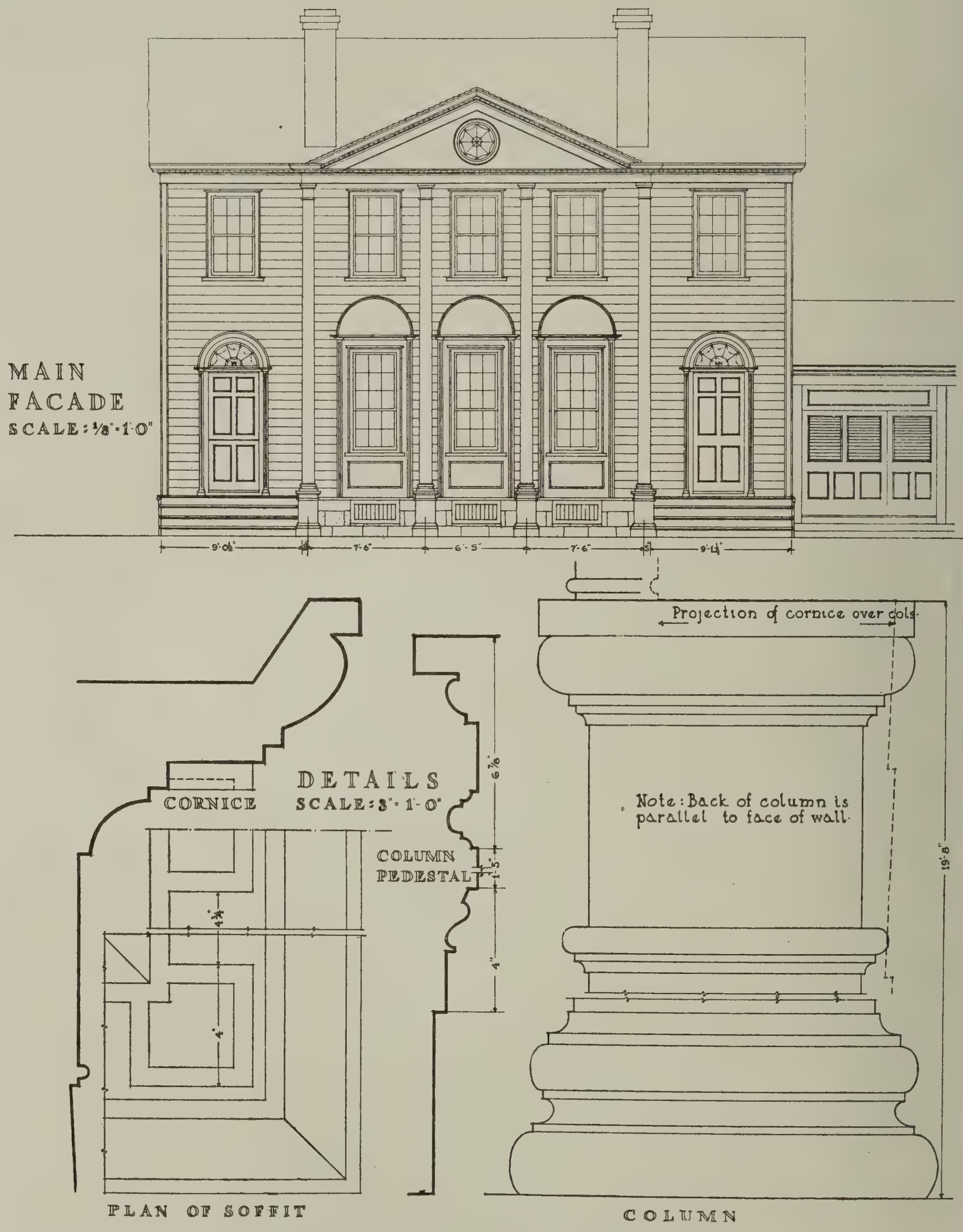


Photo: Elliott and Fry.

THE LATE SIR W. B. RICHMOND, R.A.

(See page 222.)

American "Colonial" Architecture.

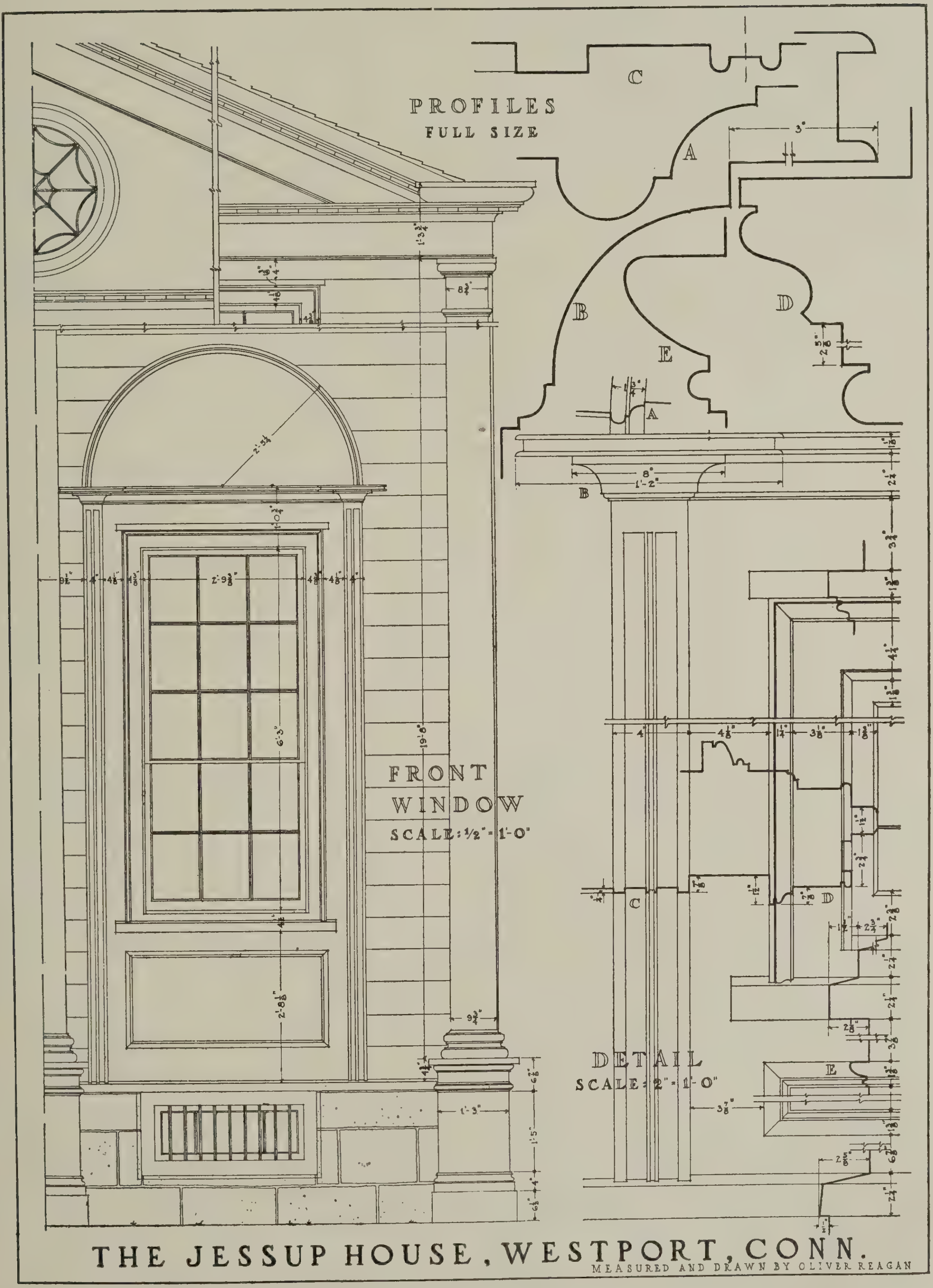


THE JESSUP HOUSE, WESTPORT, CONN.

MEASURED AND DRAWN BY OLIVER REAGAN

In this delightful example of "Colonial" architecture, built about 1780, the slenderness of th
sunken arches over the lower floor windows and the semicircular panels which they enclose—
wood construction forms usually identified with the use of stone or brick.

—The Jessup House, Westport, Conn.



gaged wooden columns emphasizes their purely decorative function and the bases of the columns, the surfaces made of flush boards—illustrate the manner in which architects of the period adapted to above drawings are reproduced from our contemporary the "Architectural Forum."

Mr. W. J. Locke on the Solidarity of Art

IN the course of a lecture last week before the Liverpool Architectural Society on "The Solidarity of Art," Mr. W. J. Locke enquired: "Are we artists merely fiddling while the world is burning?" These, he said, were the darkest hours through which the human race for a thousand years had passed; and they were all marked by the same phenomena as all other black crises in the history of civilisation. One section of the community frankly said, "Let us eat, drink, and be merry, for to-morrow we die"; another section, with the hunger of evil centuries in their eyes, would swoop down and plunder the wealth of the world.

There was a solid mass of human beings who were at their wits' end to maintain the existing fabric of civilisation and at the same time to keep their own bodies and souls together. This "saving remnant" entered the war with high ideals and had come out of it with none. The Bolshevik section alone pursued an ideal. Their mad dream of a reorganised planet by means of Marxianism run mad was positive; all our aspirations were negative. Our cry was not, "Let such and such things happen," but "For heaven's sake let such and such things not happen." The ideal of the new Jerusalem, of a reconstructed world, had faded like the baseless fabric of a vision. We were faced with things too grimly material, both social and personal, for us to look beyond the sordid moment.

There might seem to be little in common between the architect and the novelist; actually there was everything in common—everything in life that mattered. There was only one art, and in defining it they must come at length to the interpretation of the spiritual, of human life in all its myriad phases of emotion and aspiration.

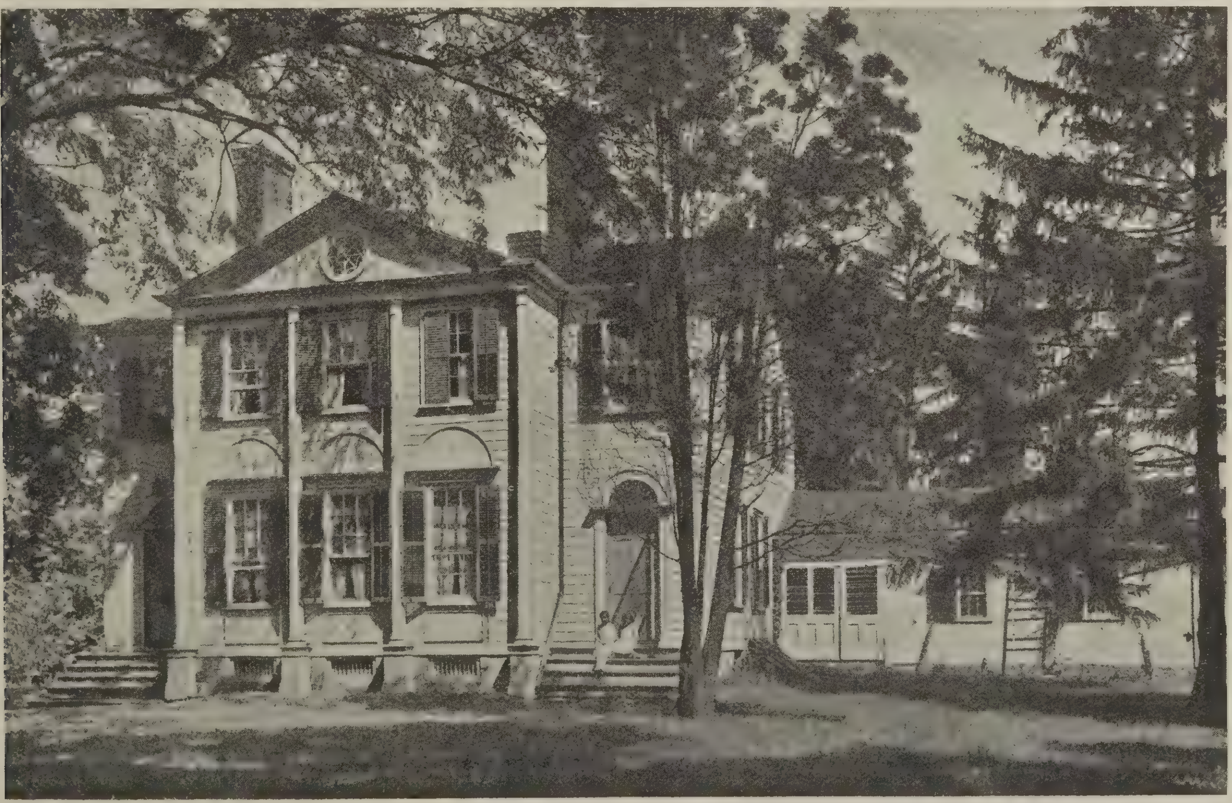
He protested against the common, unintelligent conjunction of the terms "literature" and "art," as if the two had anything to do with each other. One might as well conjoin engineering and music. It was one of those phrases which darkened counsel. It extended indefinitely the conception of the word "literature," and narrowed that of the word "art" to painting, sculpture, and embroidering vestments for bishops. It lumped the great poet and dramatist with the worthy person who dug among Greek roots, and denied them the essential quality of the artist.

The function of the artist was to express the transcendental in terms of common life. The painter, the musician, the sculptor, the architect, and the novelist were, in their true selves, engaged in the same absorbing task. "The slinger of pot-boiling paint" is not a Raphael; the degraded cacophonist who composes jazz music is not a Sebastian Bach; the writer of the serial in your evening newspaper who describes his heroine's lips as being red as a fresh wound does not rank with Dickens or Meredith; the village architect who puts up—as I saw a few months ago, staring across the green precincts at the tower and south front of an old minster—one of our great English dreams of God in terms of stone—who puts up a nightmare of a composite Byzantine-Georgian-1810 Gothic Nonconformist chapel does not sit in the Valhalla of the serene souls who created the immortal fabric opposite. Yet in all of these—you may call them miscreators—lies the Divine germ of creation. In their essence, in their souls, in the original impulse that sent them on this track of creation, no matter how they have failed or prostituted themselves by the way, we must recognise them as our brothers.

Not only was there only one art in its eternal purpose, but there were eternal, immutable laws governing every form of that one art. How many of them recognised that, from novelist to architect, they were all seeking one elemental thing through diverse temperamental media? A more disintegrated body than that of the artists of this country it would be difficult to imagine, and their societies were only working towards that disintegration. Their outlook was too narrow, and their aims, in the wider sense, were too parochial.

"The other day I had a conversation with one of our most famous sculptors, whom I met for the first time. He seemed to have vaguely heard my name as that of a writer of novels, while I, to my shame, could not recall one of his works. He might have been a sea captain and I a lady's outfitter for all there seemed to be in common between us. It is all wrong."

Very germane to the question of mutual understanding among artists was the veil of secrecy drawn over the profession of architecture. When he was secretary of the R.I.B.A. he used to reply to the groans about non-recognition of the architect, "How can you expect the public to recognise you if you set up statutes, enforcible by laws and penalties, to prevent them recognising your work?" The builder



THE JESSUP HOUSE, WESTPORT, CONN., U.S.A.

(See double-page plate.)

splashed his name across the façade of a new building. Why did not the architect do the same? It was with malicious joy that he read some months ago in the revised "Professional Conduct and Practice of Architects," that "he may exhibit his name on buildings in course of erection," with the modification "providing he does it in an unostentatious manner."

"If there were some means of organising and co-ordinating the various forms of art and bringing them all into one sociological focus its influence would be immeasurable. We need a great organisation for the conservation of the spirit, a vast trade union, in which there are no rules as to wages or limitation of output or the right to strike. It should be generally all-embracing; it should be a Freemasonry too subtle for signs and passwords, yet very real in the mutual recognition of brethren and very potent in its universality of beneficence. It would carry on, in a word, the eternal propaganda of beauty, for the revelation of which mankind has been craving ever since the world began. The only gleam of hope in Russia to-day is the notorious fact that the artist is recognised as a vital organism in the all too degraded body politic; and the singer and the dancer are given extravagant rations of food.

"Should there be revolution in this country, and all our works of art be destroyed as vanities of the capitalist, our duller population would not at first realise this fact. It would dawn on them gradually as an indefinable craving for they knew not what, and the first man who caught them with a brave poem or a gay tune or a vivid picture would step at once into his artistic kingdom. The artist matters so much in the continuous regeneration of the world that every man living to-day who practises any form of art should take counsel with himself and search out his own sincerity. He is dealing not with words or bricks or pigments or vibrating catgut, but with the destinies of mankind. To him is entrusted the divine gift of revelation."

The Late Sir William Richmond

Sir William Blake Richmond, R.A., who died last week, at the age of seventy-eight, was the second son of George Richmond, R.A. He was elected a Royal Academician in 1895, and made a Knight of the Bath in 1897; became Slade Professor of Fine Art at Oxford in 1878, succeeding John Ruskin, but relinquished that post some five years later. Chiefly famous as a painter of easel pictures, he also executed several great frescoes, including those for Mr. James Stuart Hodgson at Lythe Hall. To architects he is best known by his mosaic decorations in St. Paul's, about which a heated controversy raged at the time of their execution. Opinion is virtually unanimous in condemning these decorations as being thoroughly out of keeping with Wren's great late-Renaissance conception. Time, however, has already done much to tone them down. Sir William was very proud of these decorations, and on one occasion, at a meeting of the R.I.B.A., he inveighed vigorously against the grime-laden London atmosphere, which, he said, was ruining his mosaics. His solid reputation will rest, as "The Times" has said, rather upon his portraits, "often beautiful and always full of truth of character, and upon some at least of his large 'historical,' or rather 'ideal' pictures."

Competition News

Lockerbie War Memorial.

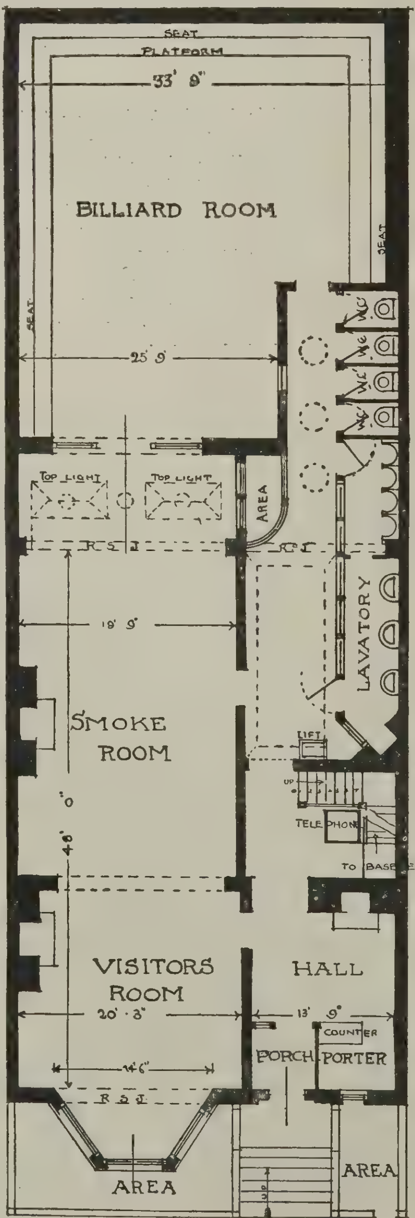
Mr. Washington Browne, of Edinburgh, has been appointed assessor to deal with the numerous designs—121 in number—sent in for this memorial.

Rothesay and Leigh (Lancs) War Memorials.

Members of the Society of Architects are requested not to take any part in the above-named competitions without first ascertaining from the Society that the conditions have been approved by the Council.

The Ideal Public-House.

The large number of designs received in connection with the competition for a licensed house in a big town will be adjudicated upon by Mr. John W. Simpson, P.R.I.B.A. The Brewers' Company offer premiums of £300, £150, and £50, and the conditions include provision for a café, a club-room, and an assembly room. The sign, "The Marquis of Granby," is to be a feature, but treated as each competitor pleases.



THE DAWSON STREET CLUB, DUBLIN: GROUND PLAN.

Society of Architects.

One hundred guineas, fifty guineas, twenty-five guineas, and other awards are offered by the Society of Architects in connection with the membership examinations during 1921. The revised regulations constitute a new departure in professional examination procedure, and also render these examinations equally accessible to country and London candidates. Entries for the April examination close on March 1. Apply offices of the Society, 28, Bedford Square, London, W.C.1.

High School, Hillhead, Glasgow.

The following architects have been invited to take part with those selected by the assessor, Sir John J. Burnet, R.S.A., whose names were published in our last issue, in the second competition for a new Girls' High School at Hillhead, Glasgow: Professor A. C. Dickie, M.A., Manchester University; W. Curtis Green, F.R.I.B.A., London; Maxwell Ayrton, London; H. Burke Downing, F.S.A., London; A. N. Paterson, M.A., A.R.S.A., Glasgow; John Keppie, A.R.S.A., Glasgow; John Watson, F.R.I.B.A., Glasgow; Reginald O. Fairlie, Edinburgh; Andrew Balfour, F.R.I.B.A., Glasgow; Matthew Adam, Glasgow.

Coming Events

THURSDAY, FEBRUARY 24.

Illuminating Engineering Society.—Discussion on "The Use of Light as an Aid to Publicity." 8 p.m.

FRIDAY, FEBRUARY 25.

Birmingham Architectural Association. —"Architectural Education," by Mr. Lionel B. Budden, M.A., A.R.I.B.A.

Royal Technical College Architectural Craftsmen's Society, Glasgow.—"Housing in the Highlands," by Mr. Colin Sinclair, M.A.I.A., F.S.A.Scot.

MONDAY, FEBRUARY 28.

R.I.B.A. Special and Business Meeting. —Election of Royal Gold Medallist. Election of members.

TUESDAY, MARCH 1.

Royal Institution of South Wales.—"Domestic Architecture of the Eighteenth Century," by Mr. J. Alfred Gotch, F.R.I.B.A., F.S.A.

WEDNESDAY, MARCH 2.

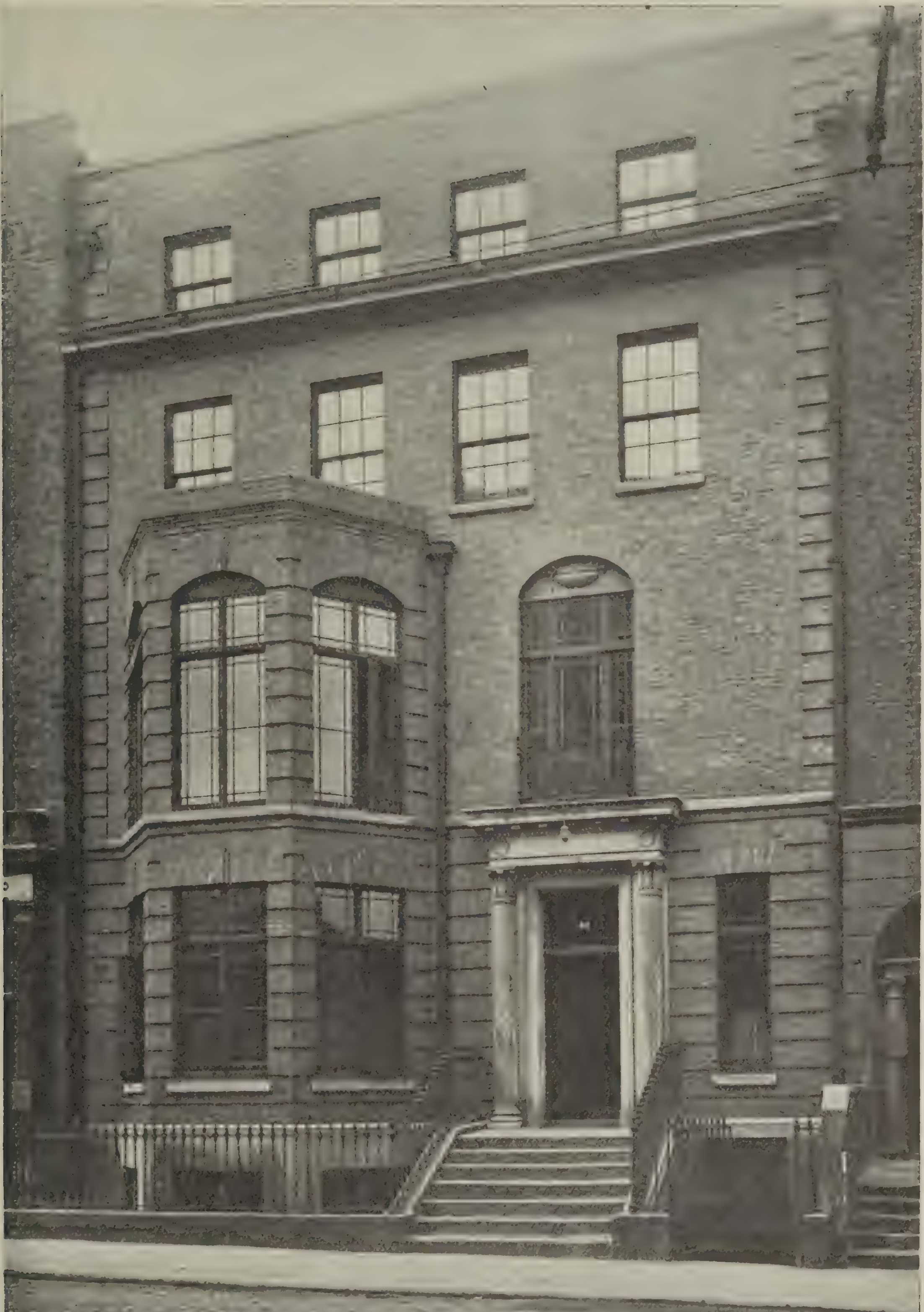
Industrial League and Council.—"Scientific Management as a Factor in Production," by Mr. A. Robert Stelling.

Galvanised Iron Industry

A large and well-known manufacturer is of opinion that we are on the eve of a great world demand for galvanised corrugated sheets. Many buildings in the United Kingdom must be resheeted without further delay, while tens of thousands of iron roofs and sheds all over the world are in a dilapidated condition. To-day's prices are pounds per ton below actual cost of production and, even should fuel, steel billets, and labour fall still farther, there is no possibility of galvanised iron prices remaining much longer at present low levels. Galvanising spelter is becoming somewhat scarce and, with an improved demand from sheet makers, there will undoubtedly be a sharp advance in price. Consumers and merchants could prevent a runaway market by anticipating their requirements now.

Current Architecture. 59.—The Dawson Street Club, Dublin

R. M. Butler, F.R.I.B.A., Architect



This club house, formerly the old City and County of Dublin Conservative Club, consisted of two old eighteenth-century houses. The problem was to provide improved club accommodation with the minimum amount of structural change to the interior. The new front is on the lines of early nineteenth-century work, and of unpretentious character, a large bay window giving additional space and good lighting. The interior contains some interesting old mantels, cornices, etc. The new façade is carried out in small specially made Courtown Harbour red bricks 2 in. thick, with wide mortar joints. The contractors were Messrs. Farmer Bros. of Dublin.

Architects' Benevolent Society

Appended is a further and final instalment of the first list of new subscribers, increased subscriptions, and donations to the Architects' Benevolent Society. The previous instalment was published in our issue for February 9, page 168:

Name.	New subs.			Increased subs.			Donations.		
	£	s.	d.	£	s.	d.	£	s.	d.
Ingelow, Benjamin (London)							2	2	0
Innocent, Mr. C. F. and Mrs. C. J. (Sheffield)							2	2	0
Jackson, T. Gordon (London)	1	1	0						
Jackson, M. T. E. (London)							1	1	0
James, J. W. (London)				2	2	0			
Jamieson, E. A. (Edinburgh)	2	2	0						
Jarvis, J. W. (Birmingham)	1	1	0						
Jenkinson, J. M. (Sheffield)	1	1	0						
Jerdan, J., and Son (Edinburgh)	1	1	0						
Jones, F. (Jun.) (Manchester							1	1	0
Jones, A. (London)	1	1	0						
Jones, Norman (Southport)	1	1	0						
Jones, W. Campbell (London)							10	10	0
Jones, A. S. (London)	1	1	0						
Jones, J. Fox, and J. T. Penfold (London)							1	1	0
Jones, S. R. (London)	1	1	0						
Keen, Arthur (London)	1	1	0				2	2	0
Keppie and Henderson, Messrs. (Glasgow)	2	2	0						
Kennard, J. Moir (London)							2	2	0
Kerr, R. H. (London)	1	1	0						
Keyte, J. R. (Birmingham)	1	1	0						
Kislingbury, A. V. (London)	1	1	0						
Kitchen, L. (Hull)							1	1	0
Ladds, S. Inskip (Huntingdon)	1	1	0						
Laing, H. G. M. (London)				1	1	0			
Lamb, E. B. (London)	1	1	0						
Lamb, H. A. J. (London)	1	1	0						
Lander, H. C. (Letchworth)	1	1	0						
C. S. L. (Leicester)							1	1	0
Langley, W. J. (Northampton)							1	1	0
Lansdell, M. J. (Hastings)	1	1	0						
Lansdown and Brown (London)	2	2	0						
Lawson and Reynolds, Messrs. (Bournemouth)	2	2	0						
Lawson, V. A. (Cirencester)	1	1	0						
Leathart, J. R. (London)	1	1	0						
Leather, J. A. (Sheffield)	1	1	0						
Lees, C. W. Parkin (Fowey)	1	1	0						
Lethbridge, G. (London)							3	3	0
Levie, Daniel A. (Cork)	1	1	0				1	1	0
Lewis, S. (London)	1	1	0						
Lewis, D. (Newport)	1	1	0						
Lewis, W. A. (London)							2	0	0
Lidbetter, H. (London)	1	1	0						
Lish, J. J. (Grange-over-Sands)	1	1	0						
Lister, B. T. (Liverpool)	1	1	0						
Lloyd, J. A. (Cardiff)	1	1	0						
Longbottom, W. W. (Halifax)	1	1	0						
Longdon, R. T. and W. J. Venables (Leek)	2	2	0						
Lumb and Walton, Messrs. (Blackpool)	2	2	0						
Lyon, Maurice (Cairo)	1	1	0						
Maggs, L. (Nottingham)	1	1	0						
MacAlister, A. P. (Cambridge)							3	3	0
Mackenzie, A. E. R. (London)	1	1	0						
Mackey, S. A. H. (Warrington)	1	1	0						
Maclennan, T. F. (Edinburgh)							1	1	0
Manning, H. C. H. (London)							1	1	0
Marks, P. L. (London)	1	1	0						
Marsland, E. (London)							1	1	0
Marten, W. H. H. (Leeds)	1	1	0						
Martin, L. (London)	2	2	0						
Marwick, T. P. (Edinburgh)							1	1	0
Matcham, Frank, and Co. (London)	1	1	0						
Mathews, R. E. (London)	1	1	0						
Maufe, E. (London) (two years)	2	2	0						
Maut, E. J. (London)							1	1	0
Maxwell, W. C. (Belfast)	1	1	0						
Maxwell, H. P. (Pocklington)	1	1	0						
May, E. J. (London)							1	1	0
McLauchlan, S. (Liverpool)	1	1	0						
Meredith, P. W. (London)	1	1	0						
Michell, J. D. (Chiswick	1	1	0						
Migotti, A. (London)	1	1	0				1	1	0
Milburn, W. (Sunderland)	1	1	0						
Millard, W. J. W. (Hitchin)	1	1	0						
Miller, B. A. (Birkenhead)	1	1	0						
Miller, C. W. (Stafford)	1	1	0						
Milne, O. P. (London)	1	1	0						
Mills, J. D. (Dundee)	1	1	0						
Misselbrook, G. T. (Sheerness)							0	10	6
Mitchell, C. G. (London)	1	1	0						
Mitchell, G. B. (Aberdeen)							1	1	0
Monson, E. C. P. (London)							10	0	0
Moore, Louis (Berkhamsted)	1	1	0						
Moore, C. H. (Basingstoke)	1	1	0						
Moss, H. E. (London)	1	1	0						
Mossman, T. R. W. (London)	1	1	0						
Mundy, T. E. (Esher)	1	1	0						
Murray, C. H. (Eastbourne)	1	1	0						
Murrell and Pigot, Messrs. (London)	2	0	0						
Naish, S. (Bury S. Edmunds)	1	1	0						
Nash, W. Hilton (London)							5	5	0
Neild, G. E. (London)	1	1	0				2	2	0
Neill, A. (Leeds)							3	3	0
Newman, D. (London)	1	1	0						
Newton, Col. W. G. (London)	1	1	0						
Nicholson, G. M. (London)	1	1	0						
Nightingale, F. B. (London)	1	1	0						
Norman, G. H. (Watford)	1	1	0						
Oldrieve, W. T. (Edinburgh)	1	1	0						
Ough, A. H. (Dawlish)	1	1	0						
Parker, A. S. (Plymouth)	1	1	0						
Parry, S. G. (London)	1	1	0						
Parsons, F. B. (Birmingham)							2	2	0
Paterson, A. N. (Glasgow)	1	1	0						
Peach, C. S. (London)							2	2	0
Pearson, L. G. (London)	1	0	0						
Pearson, C. B. (Lancaster)							1	1	0
Peascod, J. (Keswick)	1	1	0						
Penton, J. (Stamford)	1	1	0						
Petter, J. (Yeovil)	1	1	0						
Phillips, G. R. (London)	1	1	0						
Philpot, S. (Tunbridge Wells)	1	1	0						
Pictor, A. J. (Bruton)	1	1	0						
Pinchard, C. H. B. (London)	1	1	0						
Plymouth, the Right Hon. the Earl of (London)	1	1	0						
Portsmouth, H. C. (Swansea)	1	1	0						
Potter, T. J. (London)	1	1	0						
Potter, H. J. (Sheffield)							1	1	0
Potts and Hennings, Messrs. (Manchester)	2	2	0						
Potts, J. (Newcastle)	0	10	6						
Powell, R. S. (London)	1	1	0						
Powell, E. Turner (London)							3	3	0
Prescott, O. (Southport)	1	1	0						
Prosser, D. S (London)	0	10	6						
Prothern, F. (London)	1	1	0						
Quérée, H. C. (Jersey)							1	1	0
Raffles, W. H. (London)	1	1	0						
Reavell, G. and W. A. Tebbs (Alnwick)				2	2	0			
Rees and Holt, Messrs. (Liverpool)							2	2	0
Rickards, P. E. (London)	1	1	0						
Rienaecker, V. G. (London)	1	1	0						
Rimmington, F. (Liverpool)	1	1	0						
Roberts, A. (London)							2	2	0
Roberts, R. M. (Warrington)	1	1	0						
Robertson, A. R. (London)	1	1	0						
Robertson, D. (Dumfries)	1	1	0						
Robertson, H. M. (London)	1	1	0						
Romaine-Walker, W. H. (London)							5	5	0
Ross, W. H. (London)	1	1	0						
Rowbotham, H. A. (New Malden)	1	1	0						
Rowell, R. B. (London)	1	1	0						
Rowntree, F. (London)	1	1	0						
Russell, S. B. (Gosmore, near Hitchin)	1	1	0						
Ruthen, Sir Charles (London)							3	3	0
Ryde, F. C. (Weybridge)							3	3	0
Sadgrove, E. J. (London)	1	1	0				3	3	0
Sampson, N. W. (Sidmouth)	1	1	0						
Sawday, A. E. (Leicester)	1	1	0						
Scaife W. H. (Newcastle)	1	1	0						
Schofield, W. P. (Leeds)	1	1	0						
Scott, G. Gilbert, A.R.A. (London)	1	1	0						
Scott, A. (London)	1	1	0						
Scott, W. Gilbee (London)				2	2	0	2	2	0
Scott-Moncrieff, W. W. (London)	1	1	0						
Scotto, H. C. (London)							1	1	0
Searle and Searle and Allen, Messrs. (London)							15	15	0
Sears, J. E. (London)	1	1	0						
Seth-Smith and Monro Messrs. (London)							1	1	0
Sharpe, T. W. (Snaith)	1	1	0						
Shennan, T. E. (Liverpool)							2	2	0
Shepherd, G. (Dundee)	1	1	0						
Shepherd, J. C. (Freshfield)	1	1	0						
Shuffrey, L. A. (London)	1	1	0						
Sidwell, H. T. (Rayleigh)	1	1	0						
Sifton, J. T. (London)	1	1	0						
Silcock, P. (Warrington)	1	1	0						
Sills, E. H. (Peterborough)	1	1	0						
Simpson, J. W., P.R.I.B.A., and Maxwell Ayrton, Messrs. (London)							22	1	0
Sladdin, T. (Jersey)	1	1	0						
Smee, F. E. (London)	1	1	0						
Smith, A. (Stratford)	2	2	0						
Smith, A. W. (Maidstone)	2	2	0						
Smith, E. (Neath)	1	1	0						
Smith, H. (London)	1	1	0						
Smith, J. Llewllin (Aberdare)							1	0	0
Smith, J. O.				1	1	0			
Smith, S. E. (Leeds)							2	2	0
Soissons, L. de (London)	1	1	0						
Solomon, D. L. (London)	1	1	0						
Southall, W. (Retford)	1	1	0						
Spalding, R. H. (London)	1	1	0						
Stainer, W. (London)	1	1	0						
Steel, J. (Wishaw)	1	1	0						
Steele, M. (Bo'ness)							1	1	0
Stenner, W. J. (Bristol)	1	1	0						
Stevenson, Capt. E. E. (London)	1	1	0						
Stocks and Sykes, Messrs. (Huddersfield)	1	1	0						
Stokes, E. E. (Liverpool)	1	1	0						
Stokes, A. P. (London)	1	1	0						
Sturdy, F. J. (London)				2	2	0			
Sutherland and George, Messrs. (Aberdeen)	2	2	0						
Sutton, B. H. (Lambourne)	1	1	0						
Swann, W. (Stockport)	1	1	0						
Sullivan, L. Sylvester (London)	1	1	0						
Syms, R. Hardy (Isleworth)	1	1	0						
Tanner, E. J. (London)	1	1	0						
Tanner, D. G. (Birmingham)	1	1	0						
Tasker, A. K. (Newcastle)	1	1	0						
Tayler, A. S. (London)							1	1	0
Taylor, A. J. (Bath)	1	1	0						
Tebbutt, Mrs. L. K. (London)							1	1	0
Terry, E. Hardwick (London)	1	1	0						
Theakston, E. G. (Bucks)	1	1	0						
Thirtle, T. O. (London)	1	1	0						
Thomas, W. N. (Headington)							1	1	0
Thomson, W. A. (Glasgow)	1	1	0						
Tickner, T. F. (Coventry)	1	1	0						
Timbs, R. P. (Derby)	1	1	0						
Tomkins, S. E. (Cowes)	1	1	0						
Townend, T. (Rochdale) (two years)	2	2	0						
Tracy, B. D. (London)							0	10	0
Trehearne, H. F. (London)	1	1	0						
Treleaven, M. V. (Bude)	1	1	0						
Trimmell, H. C. (Woldingham)	1	1	0						
Troup, F. W. (London)	2	2	0						
Tubbs and Messer, Messrs. (London)	2	2	0						
Tubbs, Percy B. (London)	2	2	0						
Tugwell, S. (Bournemouth)	1	1	0						
Tullock, F. H. (Belfast)	1	1	0						
Turner, P. J. (Montreal)	1	1	0						
Turner, H. G. (London)	1	1	0						
Venner, A. W. (Redhill)	1	1	0						
Venning, H. J. (London)	1	1	0						
Vowles, T. H. H. (Beningborough)							1	1	0
Waddington, F. T. (Blackpool)	0	10	6						
Waddington, H. G. (Blackpool)	0	10	6						
Wadman, P. J. (London)	1	1	0						
Walcot, W. (Oxford)	2	2	0						
Walker, B. (Erdington)	1	1	0						
Walker, P. (Higher Openshaw)				1	1	0			
Ward, F. Burdett (Wisbech)							1	0	0
Ward, J. Nevi'le (London)	1	1	0						
Wardill, R. W. (London)	1	1	0						
Wardle, J. W. (York)	2	2	0						
Warman, P. J. (London)	1	1	0						
Warrington Slate Company							5	0	0
Waterhouse, Michael (London)	1	1	0						
Watkin, E. T. (Stoke-on-Trent)	1	1	0						
Watney, Dendy (London)				2	2	0			
Weaning, S. J. (Norwich)	1	1	0						
Webb, Sir Aston, P.R.A., K.V.O. (London)							26	5	0
Wells, P. H. E. (Aldershot)	1	1	0						
West, A. W. (London)	1	1	0						
Westwood, P. J. (London)	1	1	0						
Wheatley, W. B. (Hull)	1	1	0						
Whimster, H. N. (Helensburgh)	1	1	0						
Whitburne, H. J. A. (Woking)	0	10	6						
Whitelaw, C. E. (London)	1	1	0						
Wilding, J. (Runcorn)	1	1	0						
Wiles, J. G. (Richmond)	1	1	0						
Willcocks, C. B. (Reading)	1	1	0						

Name.	New subs.	Increased subs.	Donations.
	£ s. d.	£ s. d.	£ s. d.
Williams, F. E. (London)...			1 1 0
Williams, S. (Cardiff)	1 1 0		1 1 0
Williamson, L. (Loughton)	1 1 0		
Williamson, W. (Kirkaldy)	1 1 0		
Wills, F. R. Gould (London)	1 1 0		
Wills, G. Berkeley (London)	1 1 0		
Wills, J. B. (Bristol)			1 1 0
Willis, J. H. (Constantinople)	1 1 0		
Wilson, F. F. Munro (Kingston-on-Thames) ...			1 0 0
Wilson, R. (W. Wickham)...	1 1 0		
Windsor, F. (Croydon)	1 1 0		
Wood, E. (Manchester)......	1 1 0		
Wood, J. (Buckie, Banffshire)	1 1 0		
Woodroffe, W. H. (London)	1 1 0		
Woolley, W. E. (London) ...			0 5 0
Worsley, A. H. (London) ...			1 1 0
Worthington, J. H. (Manchester)	1 1 0		
Wright and Hamlyn (Warrington)	2 2 0		
Wrinch, Raymond C. (Ipswich)	1 1 0		
York and E. Yorkshire Architectural Society			3 3 0
Young, Keith D. (London)	1 1 0		
Young, W. C. (Manchester)	1 1 0		

Societies and Institutions

R.I.B.A.

Before the delivery of the paper—extracts from which were published in our last issue—on "The Cunard Building," by Mr. W. E. Willink, M.A. Cantab, F.R.I.B.A., at the R.I.B.A. last week, Mr. Arthur Keen, F.R.I.B.A., referred to the loss by death of an old friend of the Institute, Sir W. B. Richmond. A vote of condolence with his family was passed..

Professor S. D. Adshead, F.R.I.B.A., opening the discussion upon Mr. Willink's paper, mentioned that he had been associated with the late Mr. Thicknesse (of the firm of Messrs. Willink and Thicknesse) previous to the erection of the Cunard building. He regarded that building as the finest erected in this country for a considerable number of years. Certainly it was the finest office building.

Mr. Desch, a director of the Cunard Company, spoke appreciatively of the way in which the building had been carried out, and of the constructional problems which had confronted the architects.

Mr. A. W. S. Cross, F.R.I.B.A., said that they were all staggered at the low cost of the building (1s. 2d. a cubic foot), and wanted to know how similar buildings could be erected at the figure nowadays. In welcoming Mr. Willink there that evening, he remarked that he wished they might have more papers from provincial members.

Mr. George Hubbard, F.R.I.B.A., agreed with Prof. Adshead that the Cunard Building was one of the very finest buildings put up within the memory of any of them.

Mr. Frederick Chatterton, F.R.I.B.A., said he would like to know more of that wonderful 7 ft. cornice mentioned in the paper, and in response it was explained that the cornice not only overhung 7 ft., but was 8 ft. where the pilasters set back. It was supported by cantilevers, which were anchored some 10 ft. back to the main girders. The cantilevers, where they appeared under the cornice, were hidden by corbels of the modillions.

Mr. E. Guy Dawber, F.R.I.B.A., who occupied the chair, expressed the opinion that the site occupied by the building was one of the finest in the world, and it fell to the lot of very few architects to have the opportunity to erect such a building. He congratulated Mr. Willink on the way in which his firm had seized it.

Architectural Association of Ireland.

At an ordinary meeting of the Architectural Association of Ireland, held in Dublin, under the chairmanship of the President (Mr. J. C. Dewhurst, A.R.I.B.A.), Mr. Hubert Briscoe read a very interesting paper entitled, "A Tour through Constantinople and the East," which was illustrated by some excellent lantern slides. Mr. Briscoe, who is an ardent traveller, made this tour before the war, and gave a very interesting description of the principal buildings in Constantinople and its surroundings, and of the manners and customs of the inhabitants. A cordial vote of thanks to Mr. Briscoe was proposed by Mr. P. J. Munden, M.R.I.A.I., and seconded by Mr. M. J. Cullen, M.R.I.A.I. The President having addressed the meeting, the proceedings terminated.

Birmingham Architectural Association.

At the eighth general meeting of the session of the Birmingham Architectural Association, held at the Queen's Hotel, Birmingham, with the President, Mr. H. T. Buckland, F.R.I.B.A., in the chair, Mr. H. B. Creswell, F.R.I.B.A., read a paper entitled "Pecksniff, the Architect, Artist, and Man." The lecturer said that he had observed that papers read before architectural societies, however valuable they might be as contributions to the science and the art, were uncommonly hard to listen to, and with the example of the London Architectural Association before him, he had decided to choose a playful subject rather than a learned one. He had therefore taken the opportunity of tracing out exactly what Dickens had in mind when he drew the famous character of Pecksniff, pointing out that the novelist did not regard him as the good joke his readers found him to be, but rather piled abuse on him, seeming to resent him with a bitterness which suggested that Dickens had suffered at the hands of Seth Pecksniff in real life. On this account, the fact that the author had represented a mean scamp as being an architect was a matter for serious self-examination by members of that profession.

A very close reading was necessary to reveal what Dickens' ideas on Pecksniff's professional accessories, status, and surroundings were, such a reading would show an almost perfectly consistent picture, indicating that Dickens had not made a study of his subject, but had drawn on his observation, filling in the touches as his art required.

The lecturer displayed a plan of Pecksniff's house, which he had reconstructed from hints scattered throughout the novel, and read extracts setting forth Pecksniff's ingenious system of capturing orphans with four or five hundred pounds, and binding them to himself as pupils, with the added obligation of paying seventy pounds per year for board and lodgings in his house. This the lecturer compared to the present-day system of architectural pupilage, which attained the ideal of certain architects who aspired to get people to pay for the privilege of doing work for which the architect received 6 per cent. remuneration, the pupils' advantages being in learning how his employer liked his work done.

Having dealt with Pecksniff the architect, the lecturer went on to elaborate on Pecksniff, the artist and man, explaining that his art was the social art, by far the most important art an architect could study. Passages were read illustrating the three chief characteristics of the man—namely, his almost perfect self-control, his entire lack of humour, and his efforts to keep up appearances.

At the conclusion of the lecture Mr. Arnold Harris proposed a vote of thanks, which was seconded by Mr. S. N. Cooke, and carried unanimously.

Women and Housing

Many of the women interested in housing encounter difficulties owing to ignorance of technicalities, and this is specially felt by women who serve on county councils, and other housing authorities. Questions arise that involve expenditure of public money, and economies could often be made by a knowledge of the rules affecting housing. A new monthly news sheet is issued by the Women's Local Government Society that should prove a real help. In the first number is an article which is full of useful suggestions by Lady Buckmaster, and one point dwelt on is the use of cupboards. Everyone agrees that cupboards are useful, but only a woman knows how they lessen work and make for thrift. Another suggestion is that cottages should be provided with porches large enough to shelter perambulators. An alcove for the bed formed above the staircase means that the second smaller upstairs room can be used as a bed-sitting-room. The most important point in Lady Buckmaster's article is its insistence on the need for beauty in small dwellings. "The labourer is to be housed at a loss, however thriftily we build, and if he be not housed decently our labour is wasted." Such beauty of proportion, convenience, and dignity can only be gained when trained men are consulted. An architect is often the truest economy in a housing scheme.

The leaflet also contains information written for women who serve on local authorities. At present there are seventy-five women serving on fifty-one urban district councils. Last November an important conference which was held in the council chamber of the Metropolitan Asylums Board under the presidency of Sir Willoughly Dickinson showed the importance of economy in local government expenditure, and the work women could do in this direction.

The February number of this publication contains an interesting article on housing in Holland, which shows that difficulties similar to our own are being faced by the Dutch, and which gives novel and practical methods of solving them. Copies can be obtained from the Women's Local Government Society, 19 Tothill Street, Westminster, price 2d., or 2s. 6d. annual subscription, including postage.

ANNABEL DOTT.

Mr. J. Hambidge and the R.I.B.A.

Mr. Jay Hambidge, writing to the R.I.B.A. from Athens, Greece, in connection with a paper he is to read before the Institute on Tuesday, March 1, at eight p.m., says: "Recently I spent some time at Bassæ, in Phigaleia, obtaining new measurements of the Ictinos temple there. We have now the data for two first-class Greek buildings by the same architect: the Parthenon, filled with subtle curvatures, and the Bassæ building, a straight-line structure. Of all the examples of Greek symmetry which I have examined, the Bassæ structure is the simplest."

Building "Boom" in the City

Just now there is a distinct "boom" in building in the metropolis, especially in the City area; hoardings are up in almost every street, and gantries swing busily to and fro in all directions. Several large buildings are on the point of completion; many others are well advanced; others, again, are in the early stages of erection, while here and there whole blocks of decrepit buildings are disappearing before the onslaught of the housebreaker, preparatory to the erection of new and up-to-date office blocks.

At the junction of King William Street and Gracechurch Street big buildings are going up for Lloyds Bank (Trollope and Colls, builders) and for the Guardian Assurance Company, Ltd. (Higgs and Hill, builders); while near by in King William Street another large building is in course of erection by Ashby and Horner. In Cannon Street Holland and Hannen and Cubitts, Ltd., are putting up a new building for Messrs. Blades, East, and Blades.

In Fenchurch Street new offices for William Cory and Son, Ltd., are being built by Holloway Bros.; the great new building in which Messrs. Furness Withy will have their offices is nearing completion (Trollope and Colls, builders); and the new offices for McIlwraith and McEacharn's Line are well advanced (W. H. Lorden and Sons, builders). In Threadneedle Street the Banca Commerciale Italiana is being completed by Trollope and Colls.

In Moorgate Street extensive rebuilding operations are in progress. These include new premises for the Provident Mutual Life Assurance Association (Higgs and Hill, builders), for the Licenses and General Assurance Co., Ltd. (Holland and Hannen and Cubitts, Ltd., builders), and for Barclays Bank and the Ellerman Lines (Bovis, Ltd., builders). On the right-hand side of Moorgate Street, near the Bank, a whole block of early nineteenth-century stucco buildings has been cleared away, and rebuilding operations on the site are being commenced by Trollope and Colls, Ltd.

Weekly Housing Report

Up to February 11 payment of the Government grant to private builders had been made in respect of 8,683 houses, of which 557 were completed during the week. Certificate "A" had been issued in respect of 30,348 houses, representing a commitment of £7,358,425.

New housing schemes submitted to the Ministry of Health during the week ended February 11 numbered 33, bringing the total number of schemes submitted to 11,565. The schemes approved now number 8,991, and comprise about 57,755 acres. Fifty-eight lay-out schemes were submitted, and 46 were approved during the week, bringing the total number of lay-outs submitted to 7,272, and number approved to 6,700.

House plans representing 2,108 houses were submitted, and plans for 1,022 houses approved. The total number of houses represented in all plans now submitted is 295,611, and in the plans approved 277,219. During the week tenders were submitted for 1,667 houses. Tenders for 2,081 were approved, bringing the total number of houses in tenders submitted to 189,765, and in tenders approved to 176,082. Contracts have been signed for 147,460 houses.

Latest List of New Inventions

Latest Patent Applications.

3726. Carson, H. J.—Kitchen fire-places, etc. February 1.

3694. Green, W.—Wall tie. January 31.

3845. Morandi, G.—Paving or flooring tiles, wall coverings, etc. February 1.

4252. Robbins, J.—Tubular, arched, etc., structures. February 5.

Specifications Published.

158025. Cave, G.—Concrete universal junction piers or building blocks for single and double walling (cavity).

158069. Walker, F. E.—Scaffolding for use in the erection of buildings and for similar purposes.

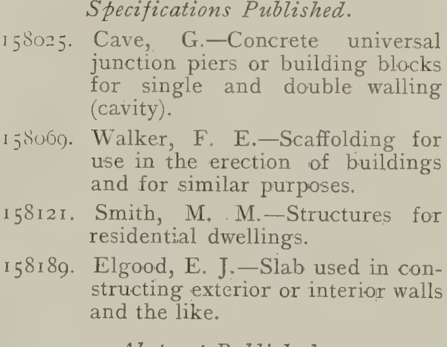
158121. Smith, M. M.—Structures for residential dwellings.

158189. Elgood, E. J.—Slab used in constructing exterior or interior walls and the like.

Abstract Published.

155120. Thewlis, J., of Headingley, Leeds. —Walls.

A cavity wall is formed of blocks *a*, Fig. 4, provided with projections *b* of dovetail shape and of the full depth of the block so that the blocks on opposite faces interlock, as shown in Fig. 3. The cavities may be filled in where required and the filling may be reinforced. At the angles, a recess may be formed on the inner face of one block to receive the projection *b* of a block on the adjacent face. Pillars or piers are formed in a similar manner but with the projections *b* set in from the ends; or they may be formed of blocks, as shown in Fig. 5, in which the projections *b* are on the inner edge of the top face only, and engage in corresponding recesses *e* on the inner edge of the lower face. For stronger walls, the opposite faces are keyed to Z-shaped blocks *k*, Figs. 9 and 10.



The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2, from whom readers of this Journal may obtain all information free relating to patents, designs, and trade marks. Messrs. Rayner and Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1s. each.

Frank Brangwyn Illustrated

Mr. Brangwyn's Panel for the new Parliament Building at Winnipeg will be illustrated for the first time in England in the March number of the "Architectural Review." "Canada's War Record" was chosen as the subject of the panel, and the artist's treatment of it is fully described in an illuminating article by Mr. Crossley Davies, who from his intimate knowledge of Mr. Brangwyn is particularly well qualified to write upon the subject. This article is in itself sufficient to render the number an unusually valuable one, but mention may also be made of generously illustrated articles on the Geffrye Museum, Shoreditch, and on Japanese Architecture, which, among others, contribute largely to the interest of the magazine.

Cost of Building

We have received the following statement from the National Federation of House Builders of Manchester: The National Federation of House Builders regrets to state that there is no reasonable ground for the recent rumours of a fall in the cost of house building. Dr. Addison has stated that contracts can be let at £100 per house less than was possible a few months ago, and this appears to have inspired many prophets to predict a rapid fall in the cost of the house.

Unfortunately, the facts do not confirm these rumours, for prices are constantly increasing, and it is more expensive to build to-day than it ever was. The increase since the end of March last year in the cost of the necessary materials for one house in Manchester, which is typical of the country, is £130. In London the increase during the last twelve months is 20 per cent. of the then cost, and consists of such items as cement 73s. 6d. to 90s. 6d., lime 63s. to 80s., bricks 75s. to 97s. 6d., facing bricks 130s. to 165s., tiling 62s. 6d. to 97s. 6d. There has been a slight decline in the price of timber due to the reduced freight charged, but in almost every other item substantial increases have taken place.

In view of these hard facts the repeated statements as to a reduction in the price of houses are misleading. The reduced tenders obtained by the Ministry of Health may be due to a variety of causes quite apart from the cost of building, the specification may be different, the administration may be improved, or the conditions may be varied. Wages have increased by 20 per cent. during the past year, and as labour is the chief item in the production of houses, there cannot possibly be any reduction in the cost of building until very different conditions prevail.

Publications Received

"Modern Sanitary Engineering." Part II. Sewerage. By Gilbert Thomson, M.A., F.R.S.E., M.Inst.C.E. Price 18s. net. Constable and Company, Ltd., 10 Orange Street, Leicester Square, London, W.C.

"The Practical Engineer Mechanical Pocket Book and Diary for 1921." With Buyers' Guide in French, Spanish, and Russian. Thirty-third year of issue. Net prices, cloth 2s., best binding 2s. 6d. The Technical Publishing Company, Ltd., 1 Gough Square, Fleet Street, London, E.C.

The Week's News

New Hotel for Willesden.

The U.D.C. have sanctioned plans for a new £30,000 hotel.

Loan for Housing in Portknockie.

The Public Works Loan Board have sanctioned a loan of £4,000 for housing.

Wortley and Concrete Houses.

The R.D.C. are considering the erection of concrete houses.

Birkenhead Gas Supply.

£32,593 is to be spent by the Corporation on improving the gas supply.

Southport Road Widening Scheme.

£20,000 is to be spent on widening Liverpool Road.

York Housing.

The C.C. have decided to erect twenty houses on the Nunthorpe Court Estate.

Housing at Holsworthy.

The Minister of Health has authorised the U.D.C. to borrow £10,000 for housing.

Building Guild for Portsmouth.

Building trade operatives in Portsmouth have decided to form a guild on the same lines as the building guild in London.

Housing at Croft.

The Ministry of Health have sanctioned the borrowing of £5,232 for the erection of working-class dwellings at Manfield.

Housing at Houghton.

A scheme is afoot to convert the isolation ward at the Houghton Poor Law Institution into dwelling houses.

Holywell Housing.

The Housing Commissioners have sanctioned the scheme of the R.D.C. for the erection of houses at Greenfield.

Housing at Alfreton.

The first sod has been cut in connection with the erection by the U.D.C. of twenty houses on the Swanwick site.

Housing at Morpeth.

The T.C. have decided to borrow £3,000 from the Public Works Loan Commissioners for housing.

Greenock Housing Scheme.

The latest addition to Greenock's housing schemes is for the erection of 1,200 dwellings, built with stone.

Honiton Housing Scheme.

The Ministry of Health have sanctioned the borrowing of £22,000, £1,178, and £984 for the housing scheme.

Restoration of Westminster Abbey.

Of the £250,000 required for the restoration of Westminster Abbey, £150,000 has been collected.

New Picture Theatres.

New picture theatres are to be built at Middlesbrough and Nottingham. The Middlesbrough building will accommodate 2,000 persons.

Priory Church as War Memorial.

The Lady Chapel at Worksop Priory Church is being restored, under the supervision of Mr. Harold Brakspear, F.S.A., as a war memorial.

Concrete Houses for Bootle.

Bootle T.C. have decided to accept an amended tender amounting to £205,440 for the erection of 212 concrete houses in Orrell.

Housing at Bridport.

Twenty-four new houses are under construction on the Skilling site, and sixteen on the St. Andrew's Road site, and it is anticipated that the majority of these will be ready for occupation before the end of the year.

Housing at Rowley Regis.

Two hundred houses are being erected by the Office of Works for the U.D.C.

Farnborough Housing Sites.

Land with frontages to Osborne Road, Lynchford Road, and Winchester Street have been selected for a further housing scheme.

Nantyglo Housing Scheme.

The foundation-stone has been laid in connection with the Nantyglo and Blaina U.D.C. scheme for the erection of 100 houses by direct labour and contract.

Housing at Ryton.

The U.D.C. have decided to apply to the Ministry of Health for sanction to a loan of £22,277 for the conversion of fifty-six huts at Crawcrook into dwellings.

Direct Labour in Housing.

The U.D.C. Council are erecting fifty houses by direct labour, on the Princess Road site, where ultimately 272 houses will be built.

Nottingham to Beeston Boulevard Scheme.

Nottingham City Council Small Holdings and Allotments Committee have approved Sir J. Boot's Nottingham to Beeston Boulevard scheme.

Gift of Houses to Ashton-under-Lyne.

Sixteen recently erected houses on the Ryecroft Hall Estate, Audershaw, have been presented to the Ashton-under-Lyne U.D.C. by Mr. A. Hopkinson, M.P.

Housing at Kingswood.

The U.D.C. have received the sanction of the Ministry of Health to a loan of £4,752 for making roads and sewers on the Hanham building site.

Bournemouth Developments.

Schemes are being considered by the Corporation for the erection of new entrance buildings to Bournemouth pier and a new shore-end pavilion to Boscombe pier.

Kirriemuir War Memorial.

Plans have been prepared by Mr. G. Washington Browne, of Edinburgh, architect, for a war memorial at Kirriemuir. It is a round tower, 25 ft. high, with six panels at base.

A New City Subway.

The construction of a subway for pedestrians at the junction of Cannon Street, King William Street, Gracechurch Street, and Eastcheap is to be considered by the City Corporation.

Rugeley Water Supply.

The U.D.C. have instructed Messrs. W. H. Radford and Son, of Nottingham, who were the engineers for the original scheme, to report upon the best method of increasing the water supply.

An Architect's Will.

Mr. James Webster, A.R.I.B.A., of Tunbridge Wells, Kent, architect, who died on December 16, aged sixty-nine, left estate of the gross value of £42,685, with net personalty £18,095.

Northern Polytechnic Institute.

Arrangements have been made to commence classes at the Northern Polytechnic Institute, Holloway, N.7, for the instruction of masons and others in all subjects connected with monumental masonry. The subjects taught will include geometry, fitting and practical work, and the first class will be held on February 22, at 7 p.m.

Llanelly Housing.

The Llanerch housing scheme of the Corporation is to be extended, and provision is made for a further 202 houses, making a total of about 420 on this site.

Leadgate Housing.

The U.D.C. have accepted plans for the erection of eighty-four houses on and at the back of Durham Road, acquired for £1,360. The houses comprise four and five rooms. The estimated cost of the houses is £76,000.

New President of the Heating and Ventilating Engineers.

Mr. Frank Biggin, of the Brightside Foundry and Engineering Works, Ltd., Sheffield, has been elected President of the Institution of Heating and Ventilating Engineers.

Rotherham Rural Housing.

The R.D.C. have decided to purchase land at Treeton, and to erect twenty houses, at £850 each, at Dalton. Official sanction has been received to a loan of £700 to provide a water supply to the Augton housing site.

New Surveyor to the H.A.C.

Mr. Gilbert H. Lovegrove, F.R.I.B.A., F.S.I., of Lovegrove and Papworth, 374-378 Old Street, E.C.2, has been appointed surveyor to the Honourable Artillery Company, following the resignation of Mr. William Woodward.

Widening of Threadneedle Street.

The City Corporation propose, as opportunities occur, to widen Threadneedle Street to 36 ft. between Old Broad Street and Bishopsgate, subject to the L.C.C. paying half the cost, estimated at £213,275.

Mansfield's Garden Suburb.

The Mayor of Mansfield has opened the first completed houses of the Corporation second housing scheme. The area to be devoted to housing is fifty-four acres, and it is proposed to erect 508 houses of seven distinct types. Sites have been reserved for shops, a place of worship, an institute or club, a mothers' centre and a school.

Architectural Practices.

Mr. Will J. B. Wright, Licentiate R.I.B.A., has commenced practice at 93 Hope Street, Glasgow. Telephone: Central 739. Mr. Herbert Kenchington, A.R.I.B.A., of 14 Great James Street, Bedford Row, W.C.1, is opening a branch office at 108 High Road, Wembley.

Scientific and Industrial Research.

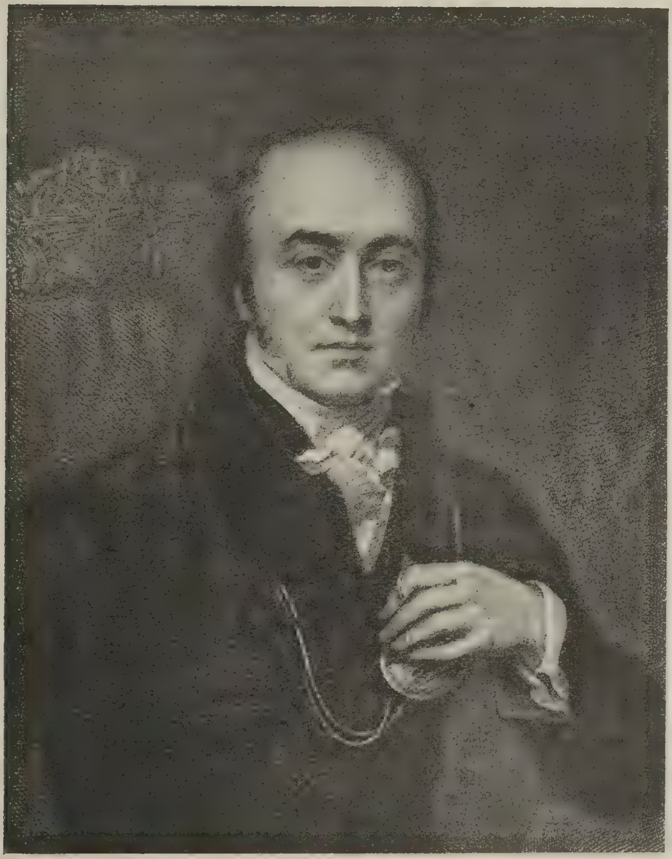
The Secretary of the Department of Scientific and Industrial Research states that the Research Association for the cast-iron and allied industries has been approved by the Department as complying with the conditions laid down in the Government scheme for the encouragement of industrial research. As the Association is to be registered as a non-profit-sharing company the promoters have applied to the Board of Trade for the issue of a licence under Section 20 of the Companies (Consolidation) Act of 108. The Secretary of the committee engaged in the establishment of this association is Mr. Thomas Vickers, 174, Corporation Street, Birmingham.

Wednesday, March 2, 1921

Volume LIII. No. 1365

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



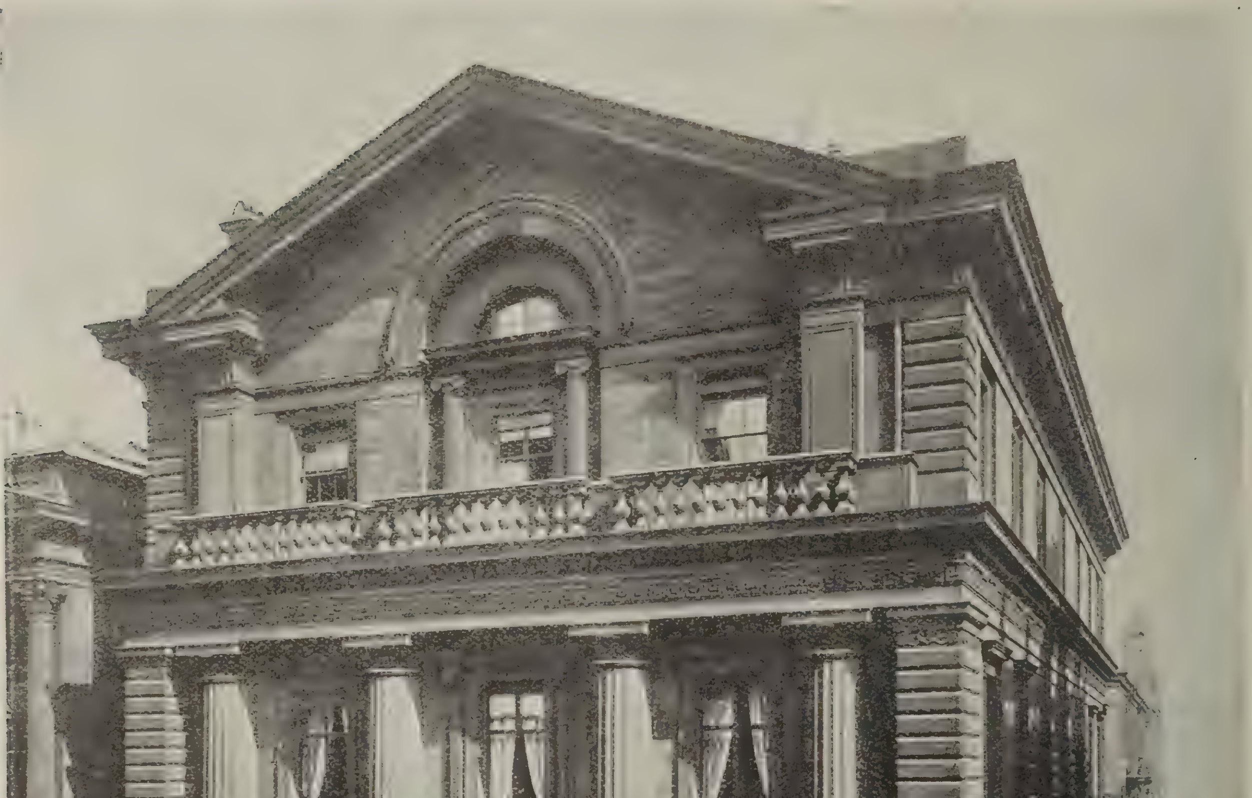
SIR THOMAS LAWRENCE, P.R.A. (1769-1830).

Born in Bristol. Entered the Royal Academy in 1787. Succeeded Reynolds as principal painter to the King (1792), and became the most fashionable portrait painter of his time. Was president of the Royal Academy for ten years—from 1820 till his death. A representative collection of his works is in the Waterloo Gallery, Windsor.

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth-Century Architecture. 15.—Bank of England, Liverpool

C. R. Cockerell, R.A., Architect



Cockerell's Bank of England branch building at Liverpool is held by many to be his finest architectural composition Dignified, reticent, and strong, it is unmistakably expressive of the purpose which it serves. It may be recalled that Cockerell's other branch banks at Manchester, Bristol, and Plymouth are conceived on somewhat similar architectural lines.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, March 2, 1921 Volume LIII. No. 1365

Notes and Comments

Maintaining Church Fabrics

A FEW months ago we had pleasure in supporting an appeal for funds for the reparation of Westminster Abbey. Now a similar appeal is being made with respect to St. George's Chapel, Windsor. We have pleasure in supporting that also. St. Paul's Cathedral seems to be in a chronic state of impecuniosity, and for years past we have had pleasure in backing up the many requests for funds that were declared to be necessary to prevent the fabric from falling to pieces. These appeals for St. Paul's and the Abbey we have regarded most sympathetically, because we love the buildings, and are anxious that they should be preserved. The Church, it appeared, must be in as parlous a case with respect to its revenues as it is with regard to its fabrics. Thence came the startling announcement that a commission appointed by the Bishop of London had recommended the wholesale destruction of City churches with the noble object of obtaining money from the sale of their sites. Next came the announcement that the Chapter House built by Sir Christopher Wren in St. Paul's Churchyard had been let to a firm of bankers. These things—the threat to the City churches and the letting of the Chapter House—gave us pause. Very naturally, as a result of this financial ineptitude, the question arose, What is the matter with the Church that it cannot keep its buildings in repair without resorting to these more or less undignified expedients of razing churches to sell the sites, of letting an historical Chapter House, and of so frequently appealing for public subscriptions? What ails the Church internally it is not our province to enquire; but upon any public appeal for subscriptions we feel entitled to make certain enquiries. Are the revenues of the Church administered in a responsible and businesslike way? If so, who is responsible for them, and what constitutes the final court of appeal? These are points on which the subscribing public would like to be assured.

There is in existence, we understand, an Ecclesiastical Commission for the Management of Church Property. It enjoys an annual revenue of nearly three millions. What does it do with the money? Are its disbursements wise, or otherwise? Included in the Commission are the two Archbishops, the thirty-eight Bishops, and the Deans of Canterbury, St. Paul's, and Westminster, the Lord Chancellor, the Chancellor of the Exchequer, and other high dignitaries, clerical and lay, and there is a staff of thirty or forty officials, who between them must absorb in salaries a considerable portion of the revenue derived from Church estates, etc. The array of Archbishops, Bishops, Deans, Chancellors, and other great ones is most imposing—almost awe-inspiring—in fact, we are inclined to fear that the Commission is top-heavy with dignity, and that many members of the Commission are mere figureheads, taking a very perfunctory interest in its operations, which are therefore the less likely to illustrate the "cent. per cent." efficiency of which we were hearing so much and seeing so little. Perhaps the institution is insufficiently criticised, publicists refraining lest they should be accused of "speaking evil of dignities." That accusation shall on no account be justly levelled at us. We rather commiserate with Commissioners who, in many instances, have become so automatically, by virtue of their office, and are so many distinguished dead-heads, knowing but little of whether or not the affairs of the institution are conducted with economy and with businesslike efficiency. Nor is it, for the moment, our business to enquire at all closely into this matter. Our immediate concern is the upkeep of the beautiful church buildings which, being admittedly the heritage no less of the nation than of the Church, are legitimately the subject of an appeal to the public for funds. Such appeals, however, might, we think, be much less frequent, and be much more easily satisfied, if the Church were to make a more economical, a more businesslike, a more equitable use of her resources. Take, for instance, the vested funds of the Ecclesiastical Commissioners for England. These amount, we believe, to nearly nineteen million pounds. Surely, out of this large sum, if not out of the annual income of some three millions, enough money could be spared to keep the Church's fabrics in repair, as well as to keep the incomes of the clergy at a respectable level. We are as anxious as anyone could possibly be that no noble building, sacred or secular, should be allowed to go to rack and ruin for want of "a few rascal counters," as Lord Beaconsfield put it; and for that reason we gladly insert Dean Baillie's appeal for funds to rescue St. George's Chapel, Windsor, from threatened disaster. Until the Church uses its funds and manages its finances generally with greater wisdom and economy, no lover of historical buildings can have the heart to repulse such appeals; and yet we very seriously doubt whether some such stern lesson would not be, in the long run, a salutary reminder to the Church that she should set her house in order, and abandon at once and finally her inveterate and humiliating habit of begging at large.

Bank-Building Design

Banks being pillars of the State, their buildings were predestined to dignity and decorum. In many towns and suburbs the local bank is the best building to be seen—churches and chapels being left out of account, and town halls being also *hors concours*. To this rule of superiority there are but few exceptions. It is rather amusing to note that between the bank building and the insurance office, as well as between the buildings of rival banking corporations, there is usually more than a suspicion of rivalry—or let us call it emulation—with results very beneficial to architecture. Moreover, these examples are very influential. Sometimes such corporations are not too proud to build with a view to sub-letting the premises. "Bank Chambers" and "Insurance Buildings" make imposing addresses; and commercial offices, to compete with them, must possess somewhat similar character, as well as an imitative name, such as "Commercial Chambers." In a certain sense one may regard the bank as a key building—that is to say, its appearance reflects the general character of the town in which it is situated—its wealth or its poverty, its commercial or its trading proclivities—and, in a way, prescribes or suggests the character of the structures which follow it. Consequently, the designer of banks is entrusted with a very responsible task, and, as a rule, right ably he fulfils it, as the illustrations in this special issue show very conclusively. We are glad to have got together so representative a collection of designs of a class of building that is so potent an incentive to dignified design and sound workmanship.

Employers and Dilution

It has been announced that the National Federation of Building Trade Employers has given definitely its adhesion to the Government's proposal to introduce to the trade 50,000 or so ex-service men. This is certainly a courageous decision, for obviously it is made at very considerable risk of arousing the antagonism of the trade unions, who have obstinately refused to make this concession. Undoubtedly this apparently callous attitude of the operatives has rendered them extremely unpopular, while the humane acquiescence of the employers greatly commends itself to a public that looks only at broad issues, never troubling itself overmuch about mere nuances. In that respect the contractors distinctly score; and to stand well with the public will be of considerable advantage to them in case trouble arises with the unions, who, it will not be forgotten, have rather discredited their own precious demarcation rules by the elimination of the contractor which the guild system threatens. If the employers succeed in the twin objects of "getting on with the housing" and of materially reducing the ranks of unemployed ex-Service men, they will have earned the gratitude not only of the Government, but of the community at large.

The Dignity of Business Premises

In a remarkably interesting speech made at the A.A. dinner (a report of it appears on a later page), Mr. H. Gordon Selfridge greatly encouraged his hearers by his reference to the appreciation of good architecture by American men of business. Not but what they knew it very well already, but their particular cause for gratification was the fact that the gospel was being spread by a business authority of such high standing as Mr. Selfridge, who would be—and was—copiously quoted in next day's newspapers. Coming from them, the statement would have been regarded as an architectural fad, or a piece of professional propaganda. It would probably have received little or no attention either from the newspapers or from the newspaper-reading public; but, as a colossally successful business man, Mr. Selfridge carries conviction on subjects of which he has, in various ways, manifested so clear an understanding, and on which, it is recognised, he has an indubitable claim to speak with authority. His own building in Oxford Street is substantial evidence of his own firm faith in the business value of beautiful building.

"A Seasonal Trade"

In a speech in the House of Commons the Minister of Labour, referring to the fact that more than 60,000 members of the building trades were unemployed at the beginning of February, commented that 25,500 of these men were painters—"members of a seasonal trade." Thus he labelled this trade and left it. But is this blind and mute acquiescence in the "seasonal" bugbear anything more than a habit? It is simply astounding that in these days of scientific method and business organisation no general remedy has been found for "seasonal trades," which keep men working at over-pressure for a month or two in the year, and leave them unemployed for the remainder of it. Some building contractors there are who have issued cogent appeals against this stereotyped convention, and, in particular, have asked the architectural profession to use their influence in securing reform. We understand that the response has been very gratifying. There is no reason why it should not have been; for it is a reasonable proposition that painting work, or quite two-thirds of its total volume, can be done at any season, and, if spread more equally over the entire year, will cost less in cash to the client and less in suffering to the operative. Soon, what is conventionally known as the painting season will be upon us. If the phenomenally beautiful weather recently enjoyed could but be depended on to last, the "spring cleaning" or painting and renovating season would "set in" immediately; but such an early spring is quite fortuitous, and neither its continuance now nor its repetition in future years can be anticipated with any degree of confidence. In any case, the plea holds good that the cruel inhumanity of a "seasonal trade" ought not to be endured in a civilised country. "Summer time" dates, we observe, have been again announced, and there is a talk of making Easter Day a fixed instead of a movable feast. Compared with these daring interferences with celestial influences, to relieve the congestion of a "seasonal trade" should be but a trivial matter to arrange and the results would be equally important.

Educating the Public

It is everywhere conceded that architecture would benefit immensely if the public took a more intelligent interest in it—if they knew with greater certainty what to admire and what to deprecate in design and decoration, and could in either case give a reason for the faith that was in them. There has been much lamentation over the public indifference in such matters and but little attempt to remove it. It will be seen from a double-page advertisement which appears in the present issue that Messrs. Archibald D. Dawnay and Sons, Ltd., are entering upon a sort of campaign of instruction. Their advertisements are to illustrate, or to convey direct information on, interesting points in architectural subjects. In that way the public interest will be aroused and maintained. Architects obviously have it in their power to assist effectually this campaign of public enlightenment, and their co-operation in it is cordially invited by Messrs. Dawnay, who are certainly to be congratulated on their enterprise in grappling thus practically with a matter in which there has been much said and but little done. This is really the first serious attempt to put before the commercial public the means of appreciating that better architecture means better business, or greater comfort and serenity in the home.

School Buildings

In concentrating themselves so exclusively on the demand for "houses for heroes," the Press and the public seem to have forgotten the very pressing character of the requirement of schools in which the heroes' children shall be educated. Honourable exception is to be made, however, of "The Times" Educational Supplement, which prints in the foremost place in a recent issue a very useful article which was written by the late Dr. P. Henderson, Deputy Director of Education, Liverpool, on "The School Building Problem." He suggests that, in view of the demand for stringent national economy, some kind of a standard system of school building, applicable to mass production, might be devised. Dr. Henderson probably meant a more substantial type than the "hook-and-eye" building of which so much was heard before the war. If it is the parts—not the designs—that are to be standardised, there can be but little objection to a proposal that seems to solve in part a most urgent problem.

The Design of Banking Premises

By AERO

It is remarkable how little this subject is understood by the generality of architects, notwithstanding the increased opportunities for studying it. Of late years, however, a few architects have become specialists in this particular branch of building: not without success, as can be seen in the narrow streets of the City, in the principal thoroughfares of provincial towns, and at the chief foci of interest in the suburbs. Many of the leading banks have organised a special works department, with, at the head of affairs, a resident architect, who rules supreme over a highly trained staff. Such a departure has a valuable precedent in the time-honoured arrangements of the Bank of England. Other banks enlist the skill of architects in private practice, thereby ensuring keen competition and a fair degree of freshness of conception. The conditions imposed upon an architect's skill, in so far as the design of banks is concerned, demand consummate knowledge of planning no less than scholarship in the arrangement and composition of architectural elements. A bank must have an especial character expressive of the position of the corporation desiring to obtain the public trust. In other words, the building should be monumental, and in its outward and inward aspect should reveal all Gilead P. Beck's aversion to shoddy.

The British Tradition

The design of good banks has long been the boast of English architects. Our tradition in this particular is almost as sound as the bricky vernacular of the seventeenth and eighteenth centuries. We had banks in England long before France understood their value; but of late years Cousin Jonathan has given his attention to this branch of building, with the result that the cities of the United States hold some of the finest treasuries in the world.

Banking Almost as Old as Building

Next to building, banking is perhaps the oldest profession in the world. We have the authority of professors who understand these matters that in the sites of Babylon and Nineveh clay tablets have been found showing some of the functions of the modern banker. Therefore, it is certain that the subjects of Shalmaneser and Sennacherib understood the advantages of money-changing, advances on property, loans, and the like. It is also obvious that the Greeks and the Romans, from Antioch to Miletus, from Selinus to Athens, from Rome to Carthage, had the system of banking at their finger tips. For example, deposits bearing interest, current accounts, letters of credit for soldiers, statesmen, travellers, and merchants desiring the transfer of credit from Gaul to Palestine. The Chinese, to whom nothing is new, had a paper currency at least two centuries before the Normans conquered England.

Early Italian Banks

Later, in the Middle Ages, we come to Italy, where we find a system of banking that had survived from classical times. To such a pitch of efficiency had the culture of Italy advanced, that four years before the Armada was launched against Elizabeth, the Venetians had established, by Acts of the Senate, the Banco di Rialto, the first public bank in the world. In 1619 the Banco del Giro was founded, to become established as the Bank of Venice. Thus it will be seen that the Venetians, profiting by the experiences of the Lombards of the thirteenth and fourteenth centuries, who had long been the money and private exchange bankers, and who had given security to the State for the right ordering of their business, could not guard against the failure of private-deposit banks. Hence it came about that the Rialto Bank was founded as a guarantee against fraud. The Venetians beyond question had their quota of Shylocks.

Lombard Street

Reverting to London in mediæval times, we have the famous example of Lombard Street, the street of the money-lenders, which, curiously enough, has retained many of its ancient characteristics, and is, in point of fact, one of the oldest established banking centres in the City. The bank of St. George at Genoa was founded early in the fifteenth century, but this was a bank of private deposit used by princes and merchants.

Exchange Banks

Another class of early banks must here be considered, such as the exchange banks of Amsterdam, founded in 1609, and continuing until 1820, and the Bank of Hamburg, which lasted from 1619 until 1873. As Palgrave puts it in his "Notes on Banking," "Their business lay in the assistance of commerce, not by loans, but by the local manufacture, so to speak, of an international currency." If reference is made to Adam Smith's "Wealth of Nations," a full account of the working of the Bank of Amsterdam can be studied. It is evident that the next improvement in methods of banking began with the introduction of the bank-note—that is to say, the issuing bank's promise to pay in coin. We are inclined to credit the Chinese with this convenient invention of paper currency. Perhaps John Chinaman found strings of cash too weighty for convenience. The bank-note was introduced in Europe by Palmstruck, who founded the Riksbank in Sweden in 1656.

The Origin of Banking

At the present time, when banking forms the most important factor in English commercial life, the origin of banking in this country is of particular interest. Prior to the year 1640 it had been the custom of the London merchants to deposit their gold within the precincts of the Tower; but when Charles the First seized the bullion, confidence in the power of the Crown to safeguard treasure was lost; and, although the money was eventually returned by the King, the merchants decided to entrust it in the future to the goldsmiths, who, since the reign of King James the First, had acted as money-changers, and had also acted as agents for country gentlemen, receiving rents, taking deposits, granting interest, and arranging mortgages. The goldsmiths gave receipts for money deposited, which receipts came to be called "goldsmiths' notes." During the Civil Wars, the banking side of the goldsmiths' business reached its zenith, and their prosperity in this regard lasted practically until the close of the seventeenth century. Oliver Cromwell found the financial backing of the goldsmiths exceedingly valuable to his administration of national affairs, and when Charles the Second came into his own, he immediately applied to them for finances, pawning, it is said, the majority of the State revenues, and paying an exceptionally high rate of interest for the accommodation.

Owing to the Goldsmiths

When the suspension of Exchequer payments was announced, in the year 1672, the Government owed the goldsmiths a prodigious sum, which caused ruin to this valued corporation, and ultimately led to the foundation of a regular system of banking. The London Directory of the year 1677, a period when Wren's towers and steeples were appearing above the ashes of the old city, is, in fact, a fascinating compilation of human interest, and contains the names of certain firms of goldsmiths from whom the great banks of Child's, Martin's, and Hoare's are descended. Smith's Bank at Nottingham, now the Union of London and Smiths Bank, is said to have been founded at Nottingham in 1688. The Bristol Old Bank was founded in 1750, and the Hull Old Bank four years later.

Rise of the National Bank

At the period when the Merry Monarch was granting charters to the East India Company, the need for a national bank was first suggested, and in the germ of this idea can be discerned the beginnings of the Bank of England, which can surely claim to be the mother of all similar institutions on the grand scale. Charles the Merry was dead, James had fled, and Dutch William, with his consort Mary, had taken residence in England, when the idea, suggested by the London merchants—among whom were William Paterson and Michael Godfrey—matured and materialised. The Bank of England was founded by Act of Parliament in 1694, under a charter granted for a period of twelve years to the "GOVERNOR AND COMPANY OF THE BANK OF ENGLAND." The first Governor was Sir John Houblon, Michael Godfrey being deputy, with a court of twenty-four directors. For thirty-eight years the business of the Bank of England was carried on beneath the roof of Grocers' Hall. Finally the bank was removed to its present position near the Royal Exchange.

Sampson's Bank of England

The Directors of the Bank of England in the year 1732 commissioned one George Sampson (an architect, by the way, whose career is but little known) to design the new premises in Threadneedle Street. Sampson, ignoring the jibes of my Lord Burlington, and mayhap the jealousy of the elder Dance, looked up his pocket Palladio—or the French edition of that work produced by Desgodetz—and produced a classic money-box which still forms part of the first courtyard from Threadneedle Street. This fragment of Sampson's fashioning, which has survived Taylor's trimmings and Soane's tattooings, not to mention Cockerell's ruffle, reveals the first costume worn by the "Old Lady of Threadneedle Street." On June 5, 1734, business was first transacted within this building, but the work was not completed until two years later. Sometimes I wander to the Courtyard there to speculate on what manner of man the renowned Sampson was, but I gain my best impression of his strength from the original drawings in the Soane Museum, collected by that arch-connoisseur Sir John, or verify my impressions in the Crowle Pennant portfolios at the British Museum. In Malton's "Pictorial Tour" one may see yet another illustration.

"The Old Lady of Threadneedle Street"

We can conjure up an imaginative picture of the Bank as it appeared on April 24, in the year 1789, when the recovery of King George the Third was celebrated in London, and the façade, partly Sampsonian and partly Taylorian, was decorated with festoons of lamps and panels of transparent paintings by J. Soane, Esq., in a manner calculated to show up the features of the joint production. The glittering embellishment of glass, metal, paint, and wax lights must have cost the eighteenth-century matron a rare penny. The time, however, was fast approaching for the Old Lady to receive a new costume at the hands of Soane, who proceeded to outdo Piranesi in dreams of stone as became the most original architect of his day.

After Sampson, Taylor

If we consider Sampson to have been the first English architect to design an important bank, Sir Robert Taylor follows as a close second, for he built Sir Charles Arsgill's banking house in Lombard Street before 1755, as well as the private house of the banker at Richmond, and long before the Adam Brothers got into their giant stride and cast their oatmeal upon the waters of Father Thames, Sir Robert Taylor, Lord Mayor of London, was balancing Sampson's façade with pavilion wings of tasteful character. Sir Robert's idea of the outerworks of the Bank of England, apart from the domestic character of Sampson's central block, followed the theory of a screen consisting of five bays of coupled Corinthian columns on pedestals, terminating in pedimented groups. It is significant that Sir John Soane followed this unique composition almost line for line when he remodelled the Threadneedle Street front, but it was left to Professor Cockerell to sweep up Soane's ruins and rubbish and to give the Old Lady the amiable look she wears above her black gown. As architectural composition, quâ architectural composition, the Threadneedle Street façade is one of the finest instances of grouping in England; indeed, it is certainly unique in the world, and this in spite of the Corinthian columns literally treading upon the paving stones of London Town.

Enter Sir John Soane

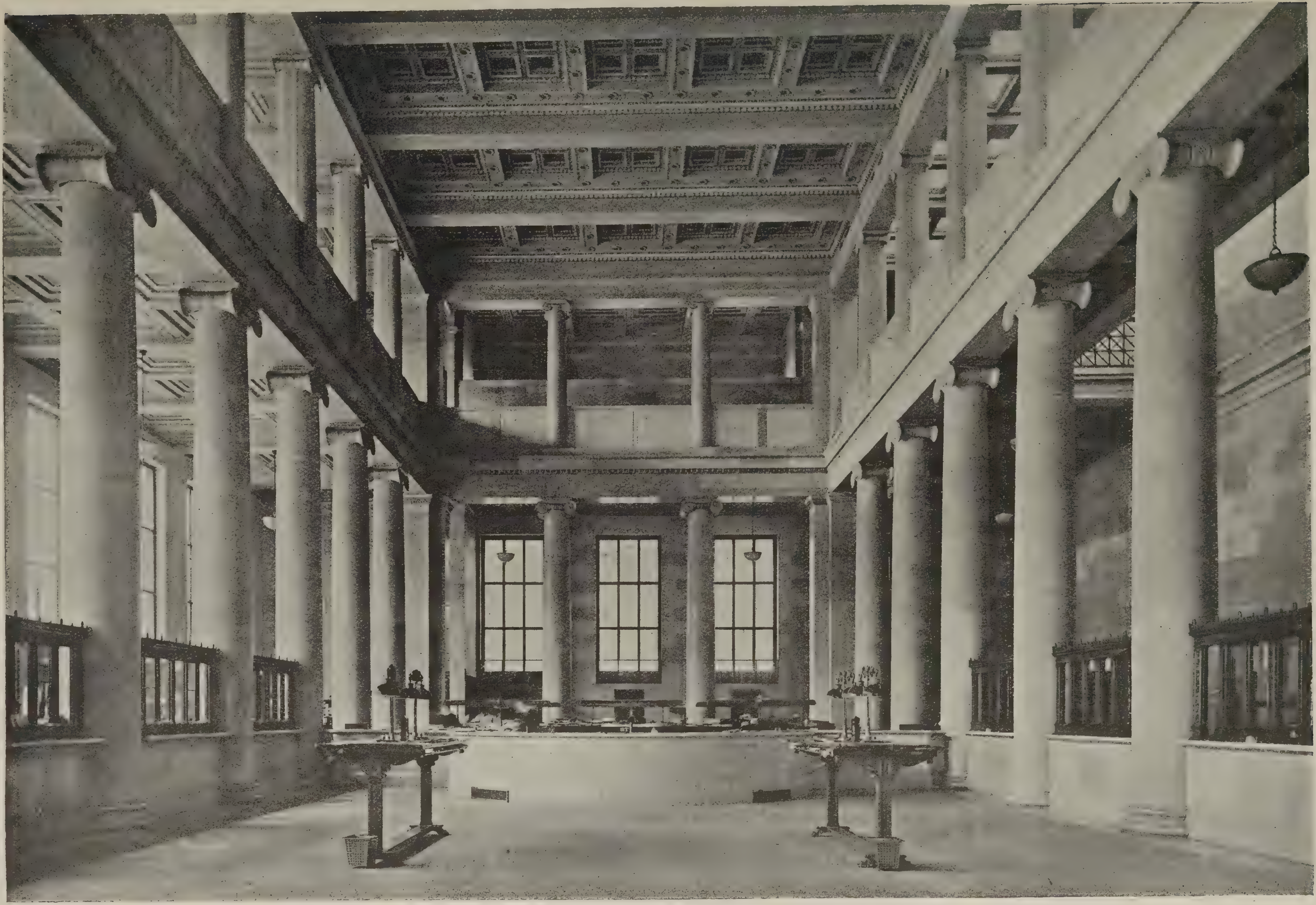
The protection of the Bank of England by the military dates from the year of the Gordon Riots. The guard use the same guardroom designed by Sir John Soane, and possibly some of the men speculate upon the military symbols placed above the doors of their quarters. Soane was nothing if not punctilious on all questions of character. For myself, I would rather enjoy the privileges of the officer in charge, who feasts off massive silver plate, and breakfasts in company with a rare silver coffee-pot. But this is digressing. The Bank of England is a vast institution. It is a treasure-house of architectural motifs. It contains ideas enough in its passages, rotundas, and halls to supply motifs for another century. Yet, it spite of all such, it is, in point of space, as obsolete as the Pyramids. As a Londoner I raise my voice in protest against any threatened demolition. The very dourness and deformity of the place amuses me. It is the blackest stone in this amazing London; yet I would not sanction the alteration of any of its piquant features; neither would the scheme for cleansing it appeal to me. For the rebuilding of the Bank only one solution is of practical value. Let the Governor and Directors take note. Here it is; from within let the New Bank arise. Have the new building to tower up many stories from behind the surrounding walls. The Bank stands on many acres. There is room, beyond question, for a scheme of reconstruction on these lines, but the New Bank must be a thing of classic beauty. No half-measures will serve. If the Bank were in New York, for example, we could rely on the job's being done with skill and taste: but we are in Balclutha.

Scottish Banks

Before dealing with the design of banking premises during the nineteenth century and after, it will be as well to consider what took place in Scotland, Ireland, France, and America a century or so ago. First the Bank of Scotland, which seems to have been founded by Act of Parliament in the year 1695. Thirty-two years later a rival concern—to wit, "The Royal Bank of Scotland"—was granted a charter, and this institution was followed by the British Linen Bank. When one walks through the streets of Edinburgh, Dundee, Aberdeen, and Glasgow, the prim character of the banking premises makes an especial appeal to one's sense of what is appropriate. In the eighteenth century

Modern American Architecture. 15.—Bank of Montreal, Winnipeg

McKim, Mead, and White, Architects



In adapting the classical style to modern buildings McKim, Mead, and White have displayed extraordinary vision and imagination. It was a stroke of genius to take a Roman basilica as the model for a modern banking hall. Very dignified and impressive, the treatment is singularly appropriate to a building where a wide, open public space is an essential requirement.

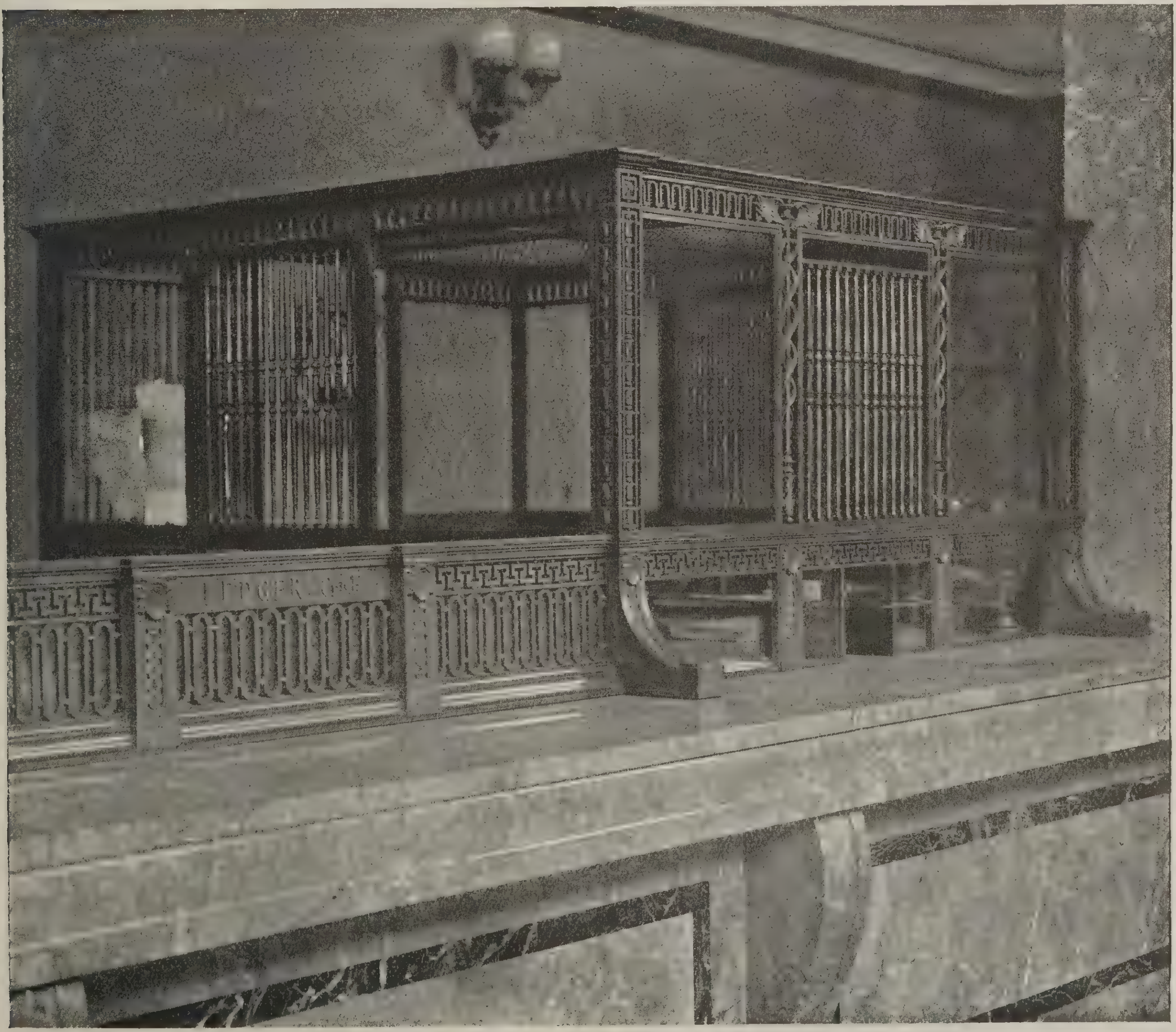
there were innumerable private banks serving the needs of each locality—some built by hard-headed Scots masons who harled the stone into a semblance of security, and others designed by the Milnes and the Adams. But the small Scottish bank was doomed to disappear before the last century was half through its course. As a matter of fact, in Scotland there are more banking offices per head in proportion to the population than in any other part of the United Kingdom; and if statistics could be prepared it would be found that Scotsmen are behind almost any bank counter in the world. Paddy, on the other hand, always a happy-go-lucky fellow, had no bank in Ireland for his gould before the founding of the Bank of Ireland in the year 1783. Even as late as 1821 no rival bank was allowed within a radius of fifty miles of Dublin. Now Ireland enjoys such institutions as the Provincial, Northern, Belfast, National, Ulster, the Hibernian, Royal, and Munster Banks, all of which issue notes.

Banks in France

In France the first bank, known as the Banque Générale, was established in the year 1716 by a Scotsman, one John Law. Two years later this establishment was styled the Banque Royale, the King of France guaranteeing the notes; but Law's project came to an end in 1721. During the eighteenth century, prior to the Terror, various banks with limited issues were allowed to carry on, and there was at least one attempt to reconstruct Law's bank. Perhaps the most famous French building of the banking type is the Hotel des Monnaies, designed by Antoine, who began life as a carpenter. Sir William Chambers did not disdain to borrow some of Antoine's details for his work at Somerset House. Certainly he paid good interest for the accommodation, as may be immediately seen by anyone who cares to walk into the Courtyard at Somerset House. In the year 1800, Napoleon founded the Banque de France, which now has over four hundred branches. In fact, this bank is among the largest of the French "long stockings." Other large banks in France include the Comptoir d'Escompte, founded in 1848, the Crédit Lyonnais, founded in 1863, the Société Générale due Commerce founded a year later, and the Crédit Foncier, founded in 1852, which deals chiefly in mortgages. In addition, there are innumerable provincial banks, the design of which graces the towns of France.

German Banks

The Germans do not appear to have possessed a national bank (Reichsbank) until well on in the Bismarck régime. From that time many of the smaller German banks were engaged in financing the com-



COUNTER RAILING, BANK OF COMMERCE, WINNIPEG. DARLING AND PEARSON, ARCHITECTS.

merce and industry of the country. We have now to learn whether these institutions will assist in the redemption of Germany's liabilities.

The United States

In this brief résumé of the banks of all countries a brief account of the United States of America has been left to the last. We have to turn back to the period of transition when the Colonial affairs were merged into the Republican control. In the year 1781 Congress sanctioned the founding of the Bank of North America, which obtained a charter from the State of Pennsylvania in the following year. This bank continued in business until the year 1863. A federal bank of the United States was incorporated in the year 1791, but its charter was not renewed twenty years later. In 1816 a second bank of the United States was started, but this also was short-lived. Finally, at the close of the Civil War, the necessity for some uniform system became apparent, and in consequence the national banks were re-established on a firmer basis. To-day there are more than six thousand national banks in America, besides other institutions too numerous to be catalogued in these columns.

After Soane, Cockerell

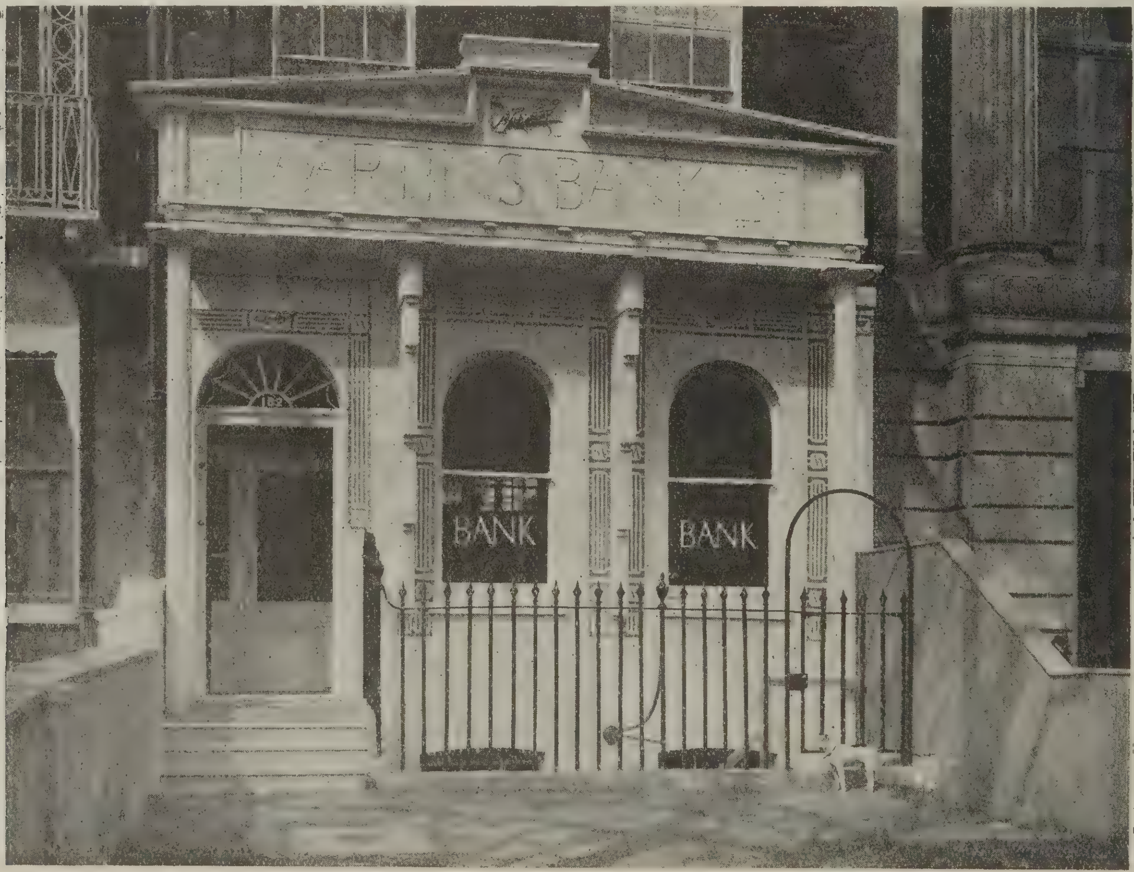
Following the rebuilding of the Bank of England, there ensued a period of activity in architectural circles regarding this especial branch of design. Soane was succeeded by Professor Cockerell, who, together with Sir William Tite, built the Lothbury branch of the London County and Westminster Bank. Cockerell, in his capacity of architect to the Bank of England, carried out the famous branches at Liverpool, Manchester, Bristol, and Plymouth, evolving for three of the branches a special pedimented design which is singularly appropriate in character. The Hardwicks, father and son, were also architects who specialised in bank design, many of the leading bankers in the City of London entrusting their work to this firm.

Prolific Gibson

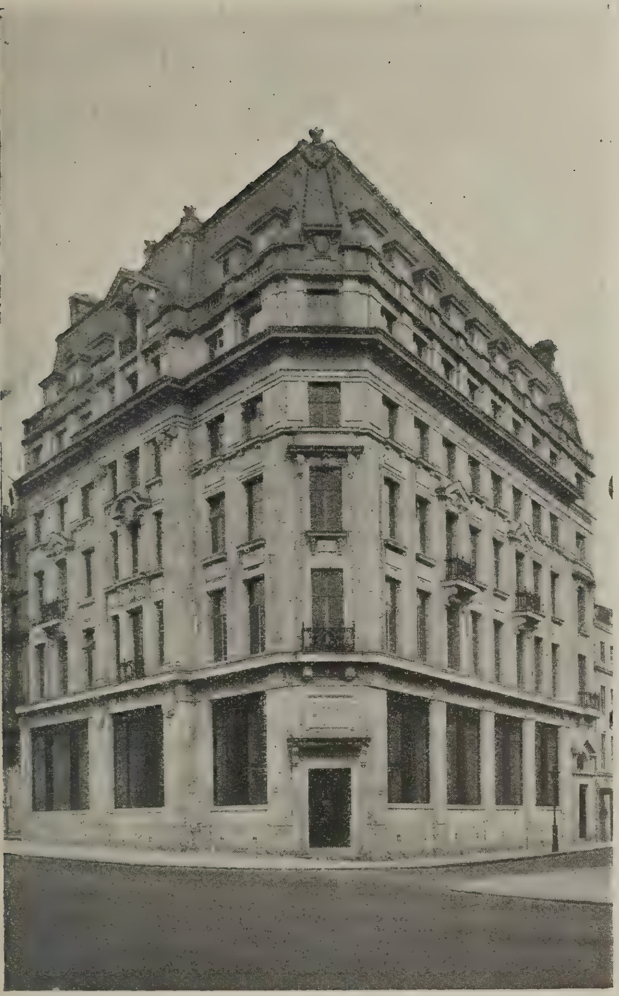
The next bank designer of note was John Gibson, of Westminster, who appears to have travelled from Southampton to Glasgow in order to execute his many commissions. As a matter of fact, there is scarcely a town in England that does not possess a bank by John Gibson. In the 'eighties the classic vernacular for banks had become stereotyped. We find Hardwick's son building the bank at the corner of Whitehall in the style favoured by Sir William Chambers, but, alas! the façade, although good, lacks the poetry of the master.

Some Famous Strand Banks

The Victorian bank was a solid-looking structure. It also revealed florescent tendencies peculiar to the age of Cremorne. When we think of the fine quality associated with the old premises in the Strand, where Messrs. Coutts formerly enjoyed the pencillings of Robert Adam—the building still stands, but, alas! not as Adam left it—or the stern character imparted to the façade of Hoare's Bank in Fleet Street by Sir Robert Smirke, it is a little disconcerting to revert to the tawdry details of many other later banks. In spite of the fluctuations of taste during the last century, many fine banks continued to be built, and it is owing to the inherent sense of tradition evinced both by directors and architects that the classic vernacular was considered to be the best form of expression even during the darkest days. We chance upon such examples in out-of-the-way streets in the City of London. We come upon the Greek and the Italian façade in almost every provincial town, such buildings invariably bear the stamp of the period. They have a definite character, and are not to be despised because, according to modern notions, they are out of date. Even so, it is quite possible that another twenty years must elapse before we produce an architect capable of evolving a plan to equal Pascal's famous banking plan of 1866.



MARTIN'S BANK, EUSTON ROAD, LONDON. PROFESSOR BERESFORD PITE, F.R.I.B.A., ARCHITECT.



UNION OF LONDON AND SMITHS BANK, REGENT STREET. STEPHENS AND MUNT AND HENRY TANNER, F.R.I.B.A., ARCHITECTS.

Collcutt, Blomfield, Davis

From the year 1890 onwards, the building of new banks has occupied the attention of architects almost as much as any other branch of building. London was astonished when Mr. Collcutt produced the bank on Ludgate Hill, and this astonishment was only equalled when the late Sir Arthur Blomfield adopted an English Renaissance motif for the bank in Fleet Street. The late Mr. Macvicar Anderson attempted to return to rigid classical lines when he rebuilt Messrs. Coutts' bank in the Strand, and there are other excellent buildings scattered up and down the country. So far, we English architects have not succeeded in designing banks to approach the quality of similar structures in America, where the first axiom seems to be to inspire trust, and to encourage good taste. Edinburgh is particularly rich in the design of good banks of modern character. One does not remember to have seen many such in Dublin, but the writer is acquainted with Mr. Hill's fine building at Cork, and with Mr. Lionel Grace's work in the City. Mr. Arthur Davis, it is said, is engaged upon the rebuilding of an important City bank, and we can expect something extraordinarily good from his pencil.

Nineteenth Century Character

Attention may fittingly be called to the vast number of buildings erected during the last century which have a semi-official character of a kind associated with banking institutions. First there is the County Fire Office in Regent Street. Then there is the Sun Assurance office in Threadneedle Street, designed by Professor Cockerell and altered by the late Mr. Porter. Nor must we forget the magnificent façade of the Savings Bank in Queen Victoria Street, which was designed by a former architect to the General Post Office; and even the Italian portion of St. Martin's-le-Grand is not to be despised. While on this theme, it occurs to the writer to mention the General Post Office at Manchester, which is the best work carried out by Williams.

Some Modern Branch Banks

The newer English branch banks, particularly those in the suburbs and in provincial towns, are among the best of their type. Both architects and directors have been at great pains to ensure that the new buildings should harmonise with historical surroundings. Messrs. Gotch and Saunders have done much to improve matters in the Midlands. Birmingham architects have also given their minds to the task of changing taste, and everyone is agreed that Mr. Horace Field has done as much as any living architect to interpret the correct character a branch bank should have. There is one of this architect's banks for which the present writer has a particular regard: it is the branch on Rosslyn Hill, at Hampstead. One has also seen evidences of Mr. Field's skill at Guildford, Chelmsford, and other towns. Such works are a constant delight to the townspeople and visitors, and go far to show the importance of designing in accordance with local tradition. At St. Albans, opposite the Town Hall, built by George Smith, there is a charming bank in sympathetic Greek by Mr. Maufe.

Banks in the Monumental Manner

English architects have yet to learn to design banks in the monumental manner—that is to say, with the same regard for scale, scholarship, good taste, and the proprieties evidenced by our American cousins. Of course, it will here be apprehended that the writer is going to treat us to another homily on the virtues of McKim. There is some ground for this intelligent anticipation. McKim succeeded in his bank designs because he picked up the threads of design as they were left by Latrobe, Rodgers, and Walters; he did not descend to the Parisian level, neither did he succumb to the alluring fantasies of Garnier. He knew the value of English restraint, and the reticence of the older and simpler work. What McKim did was to excel his predecessors. He had at hand the volumes showing old Rome. Besides, he was a scholar, and was blessed with almost Quaker-like restraint. If we analyse his designs we find them, apart from the rearrangement of columns, consoles, and acanthus, to be models of logical planning, as well as thoroughly American in conception and character. McKim is seen at his best in the design of banks. McKim succeeded where many another failed; he was big enough to pick up the European tradition, strong enough to make it American, wise enough to sink his personal likes and dislikes for the fulfilment of a vast idea. McKim was out to give American architecture a new and invigorating stimulus; he believed in the vaccine treatment in preference to the old system of doctoring by patchwork. If one were asked to give an opinion on American architecture one would answer comprehensively and complacently " McKim."

Future Promise

English architecture, as regards civics, has got to improve. The younger men are gifted with an enlightened vision, which extends beyond the coast-line of the United Kingdom. It is not implied that we are to see a return to pedantry with Parthenons, Pantheons, Roman Baths, and Italian Palaces as the chief ornaments of the London streets. We are not in the mood for a second Munich; neither do we relish a tawdry imitation of Parisian fashion. For the past twenty years the change has been at work; the barometer is now set fair for scholarship and all that can be included within the meaning of this euphonious if somewhat ambiguous term.

Banks: Their Building and Equipment

By EDWARD MAUFE, M.A. (Oxon), F.R.I.B.A.

WE look with affection upon many of the banks of our predecessors, and hope that such admirable buildings as the Bank of England (Sir John Soane, architect, 1788-1835) may never need to be destroyed. Few realise the true quality of this work of Soane, lying behind its "screen" wall and forming, with its charming courts, something of a small town in itself. There are still, fortunately, other banks that may be placed in this category, such as the Royal Bank of Scotland, Edinburgh (Sir William Chambers, architect, 1768), Parr's Bank, Threadneedle Street (originally Moxhay's "Hall of Commerce," built 1839), the London and Westminster Bank, Lothbury (Sir William Tite and Professor C. R. Cockerell, R.A., architects, 1837), and Cockerell's branches of the Bank of England at Plymouth, Manchester, Bristol and Liverpool.

But the great development which has taken place in the function of banks during the last few decades has caused many changes in the planning and general character of their buildings. Banks are now public institutions upon which the nation has learned to depend, consequently their buildings are no longer parochial in character, but public. It is only natural, therefore, that they should be fitly housed, and the great banks of the world are more and more taking upon themselves the responsibility of such leadership.

When considering more recent bank buildings one cannot fail to be filled with admiration for the wonderful breadth and dignity of treatment achieved by American architects. They have certainly seized the opportunity given them by American bankers, who have been quick to realise the commercial value of fine building. As an instance one may quote a paragraph from the conditions handed to architects in a recent New York bank competition: "It is felt that the architectural atmosphere, as evidenced by the taste shown in the exterior and interior treatment, should be of a high order, and should express solidity of the financial system of the United States and the high character of the transactions which are carried out under its roof. It is hoped that this bank may demonstrate the possibility of the development of a building which, through its simplicity of detail, its beauty of proportion, and the taste with which materials and colours are used may set a standard which will be of a far-reaching effect." There is little doubt here that the influence of environment on conduct is appreciated.

When comparing English with American and Continental bank plans, one is struck by a fundamental difference in type; the difference being mainly in the varying relative importance, in the banker's mind, between his staff and his customers. In England—one thinks quite rightly—the bank staff is definitely placed in the best position and given the best light; whereas in America the customers have magnificent well-lighted halls, while the bank staff, except that immediately in touch with the public, is placed in galleries and rooms out of sight, much as the great English landowner of the eighteenth century provided spacious halls for his guests, but packed away himself and his household into comparatively insignificant rooms.

There is no question but that this attitude of laying oneself out for one's guest is favourable to the architect, and one cannot help feeling that it may have been actually dictated by him. In the eighteenth century—and in some degree in America to-day—all educated people appreciated the value of the architect's work, and he was thus in a position to attempt to realise his ideals of mass and line, form and rhythm.

The American bank resolves itself into a typical Basilican plan—compare the striking similarity in form of the beautiful Bank of Montreal at Winnipeg (McKim, Mead, and White, architects, 1914) with Trajan's Basilica at Rome (Appolodorus of Damascus, architect, A.D. 98)—the "nave" being given up to the public, the cashiers ("tellers"), with only their immediate dependants facing inwards from the "aisles" on each side, while the rest of the staff is in the "galleries," or in rooms out of sight.

But when an English architect approaches the problem of designing, say, the head office of an important bank, he immediately finds that it is impossible to give up a great central hall to the public. The customary number of the bank staff required directly behind the cashiers necessitates that he must turn the American type inside out, the staff occupying all the body of the building, while the public have not much more than a passage round the edge. The English method appears to lead to simpler organisation, therefore to be more practical. But, given the restricted sites with which he has almost invariably to deal, the English architect's difficulties would be much eased and the banker would have finer buildings if it were practicable—in the case of large banks—to have fewer of the staff in the actual banking hall, i.e., accommodate in conveniently placed offices all those whose presence is not essential in the banking hall.

A good British example of this arrangement is the Munster and Leinster Bank, Cork (Arthur and Henry Hill, architect, 1911), and a recent example in London of the same arrangement is the Hong Kong and Shanghai Bank, Gracechurch Street (W. Campbell Jones, architect, 1913), but here the English requirements have forced the architect to reduce his public space to the minimum.

One cannot but welcome the gradual disappearance in English banks of the many grilles and barriers of the past. In America one appears to be as little intimate with the cashier as one is with the booking clerk at a railway station—yet to an American, our unprotected cashiers are only one more sign of the incredibly easy-going English methods.

The outstanding merit of the architectural treatment of American banks, also the fact that they are frequently forerunners in method and equipment, have made it necessary to be somewhat discursive on this subject, and it will be valuable to make comparisons on many points now that details are to be considered. These, though applicable generally, must in this article refer more particularly to the average sized bank, and in the hope that it may serve its purpose as an article of reference, it is thought that it will be more useful to consider each section of the plan in detail rather than to make generalisations on the whole.

External

In the past, good lighting was frequently sacrificed to a fortress-like appearance, but with modern methods of construction it is normally possible to combine adequate lighting with adequate strength—strength, not only of construction, but strength of appearance—the influence of which on the public must not be overlooked. A bank should rely on standing out from its fellows rather by its strong, clean-proportioned front, than by the number of its titles, though it is now recognised that a beautifully lettered title can be a focal point of great value to a building. Unfortunately the English banker, having rightly revolted from the generally vile lettering of the nineties, frequently thinks that nothing is "safe" but a barren and characterless "block" lettering, yet the appropriateness of the dignity and simplicity of well designed "Roman" characters is beginning to be felt.

Lombard Street set an excellent example in the use of hanging signs; there is no doubt that they can be of great service and interest to the public, and an appropriate and legitimate advertisement of the bank. The example is surprisingly slow in being followed up.

It is inadvisable to have the office hours on permanent plates, since changes in them have of late been so frequent; also, one hopes that the banker cannot for long hold out against the general inconvenience of his three o'clock closing to the public.

Entrances

As the newspapers have frequently remarked, the value of a corner entrance is fully appreciated by the banker, and though the shopkeeper now recognises that an entrance at the corner by no means compensates for the loss of a display window at this point, there is no question of this in the case of a bank.

A double set of doors is essential, but there is seldom need for large lobbies; in fact, in the smaller bank a lobby which is merely the depth of one of the outer doors is adequate. These outer doors should be so arranged that, when the bank is open, they lie back against the sides of the lobby to form panels, i.e., the actual hinges of the doors are closed when the doors are open, and vice versa. Borders round mat-sinkings, and soffits to lobbies, must be arranged so that they are "right" when the outer doors are open.

It is customary only to glaze the inner doors half-way down, but if there is a kicking plate on a deep bottom rail, there is usually no objection to glazing down the full length. In this way better proportioned doors are obtainable, the lighting is increased, and the interior appears more attractive to the passer-by, particularly if the paving of the public space be well designed. With the shallow type lobby described, there is little objection to ceiling it immediately above the top of the doors, thus obtaining valuable lighting above the entrance.

Banking Hall

The importance of adequate natural lighting cannot be over emphasised, the cashiers in particular require good back, side, and, if practicable, top light—back lighting cannot be over emphasised; the face. To attain good lighting, the banking hall must have reasonable height. English practice in the past has frequently erred on the low side, thus giving poor lighting at the rear of the bank and making any extension in depth an impracticable proposition. In this connection round-headed windows are to be condemned; they take off light at the point where it is of most value, doing away to a large extent with the use of the ceiling as a reflecting surface; also the difficulty of satisfactorily arranging blinds for them on the inside is almost insuperable. Frequently blinds are required to be drawn only a foot or two to shut out the sun from some particular part, and this straight line, cutting off a portion only of the segment, is fatal to architectural effect.

When designing a large bank where there is the probability of increasing business it may be well to make the internal height sufficient to allow for the addition of mezzanine galleries. In the case of the average sized "lock-up" bank, a good arrangement is to make the main office about 18 ft. high, the manager's room, waiting room, and strong rooms being placed at the back, with a mezzanine over consisting of a voucher room, stationery stores, and lavatories. In this case the ladies' lavatories may be on the one floor and the men's on the other—an ideal arrangement. But if the strong room be on the ground floor it is imperative that it should not be in such a position as to block the way to further extension.

There has lately been an interesting development in the very large American banks situated in important shopping centres, whereby the banking hall itself is on the first floor, the centre of the ground floor being occupied by an entrance-hall, with lifts, and a great staircase up to the middle of the public space. By this means practically the whole of the ground floor frontages can be let off as shops, while a well-lighted bank is obtained above. A magnificent example of this arrangement is the Continental and Commercial National Bank, Chicago (D. H. Burnham and Co., architects, 1914). The accessibility of this bank is actually easy, but whether the apparent inaccessibility would not rule out this method of planning over here is certainly open to question.

Public Space

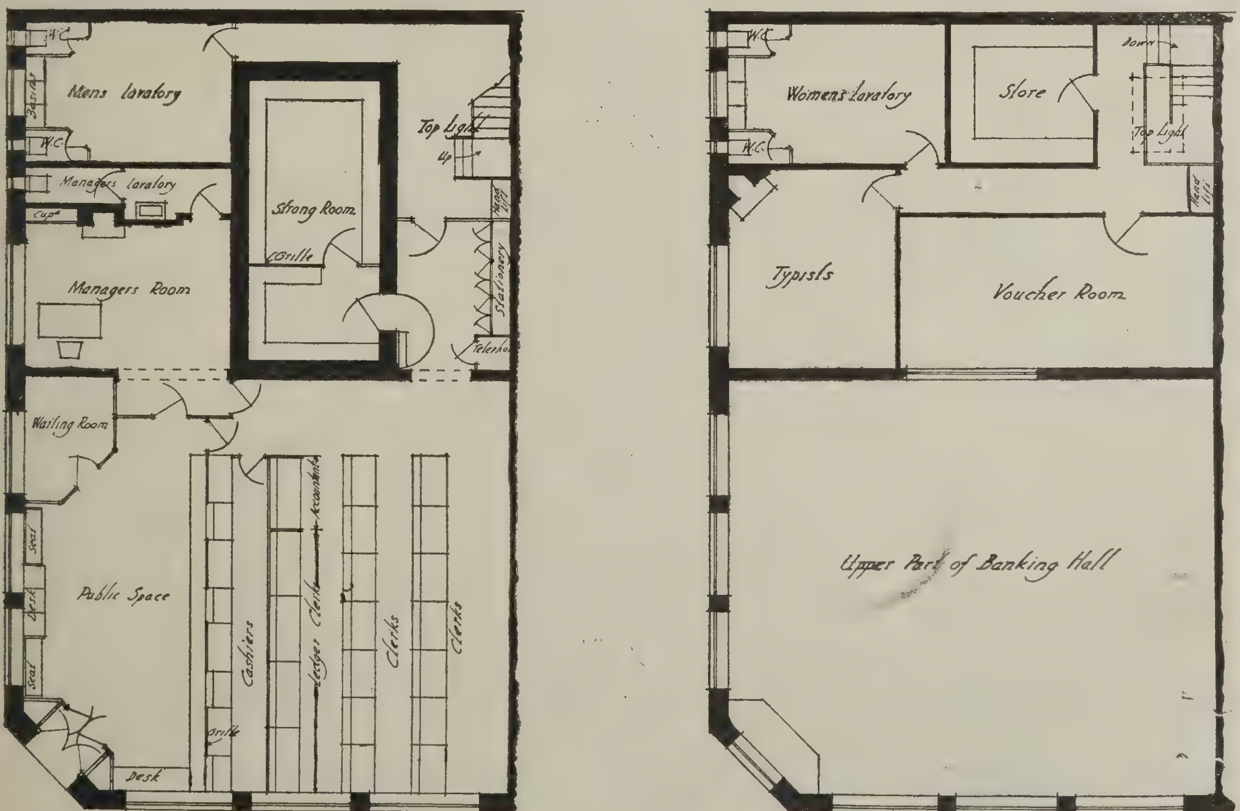
In English banks the public space is almost invariably too small. Its width should be adequate for the public to pass freely, even on exceptional occasions, such as market days, and also there should be width enough to allow for writing desks or tables and benches or chairs; that is to say, the width should not be less than 9 ft. If this width is impossible to attain, then the customers' writing-desks should be arranged against the wall or in window recesses, and it is well to divide them off by glazed (obscure) partitions in order to secure a certain privacy. The length of the public space is usually determined by the number of cashiers required.

As to the question of paving, well-designed marble has much in its favour, except initial expense, and the fact that it is invariably slippery; this latter defect may be overcome by paving, as in the public space of the fine building of the West African Bank at Liverpool (Briggs, Wolstenholme, and Thornley, architects, 1914), where alternate panels of Hopton Wood stone and Black Rock asphalte are used with admirable results. Nothing can look better than well-laid Portland, which, however, with most stones less close in texture than a stone like Hopton Wood, has the serious disadvantage that it wears too freely as paving, and is consequently uneconomical in cleaning. Wood blocks and rubber pavings each have their advantages: the noiselessness of the latter is excellent, particularly for very large banks. For the small branch a composition floor laid in large simple panels can be very satisfactory—easily cleaned, and non-slippery.

Manager's and Waiting Rooms

It would be impossible to consider here the intricacies of the arrangement of rooms for the directors and principal officers of a large head office bank, therefore the following remarks apply in the main to the average sized branch.

There should be a waiting room in all but the smallest branches, to be used, not only for the purpose its name implies, but also for customers to examine deeds in privacy. It should open out of the public space, and occasionally it leads into the manager's room, but, unless this room is large, it is desirable that it should not do so, in order that private conversations may not be overheard. There should be two doors leading to the manager's room, one from the public space, and one from the staff portion of the banking hall. The door from the public space should not be in such a position that customers can approach the manager without the knowledge of the staff; and the door to the staff portion of the banking hall should preferably



TYPICAL PLAN FOR A SMALL BRANCH BANK.

be out of sight of persons standing in the public space, so that a manager can escape with discretion if he does not wish to interview an undesirable customer.

The planning of the manager's room should be such that there is ample space for a large flat-topped desk (5 ft. by 3 ft. minimum) with good light, left hand if possible. There must also be adequate space for the customer or customers to sit near this, preferably in front of it, and the importance to a manager that the light should be thrown on to his customer's face is almost as great as to a doctor with regard to his patient.

The two doors into the manager's room should not be on opposite sides, so that it tends to form a passage, and the practice—formerly common in small English branches—of placing the door to the strong room here, is to be condemned—no manager or customer should be subjected to the interruptions caused thereby. An open fire is still considered by many to be a desirable feature of this room, and a cupboard to take various necessary printed forms, frequently as large as 16 in. by 10½ in.

Both the waiting room and the manager's room should be separated from the banking hall by partitions of obscure glass, not by walls. It is recognised that the glazed partitions give the exact amount of privacy required, they give the impression to the staff that they may be overlooked by the manager and the impression to the customer interviewing the manager that, though conversations are private, yet, should any improper use be made of this privacy, the staff is within easy reach.

If it is impossible to avoid walls as divisions for these rooms, the doors at least should be glazed with obscured glass, though it is sometimes convenient to have one pane of clear glass in order that a member of the staff may avoid entering if he sees that the manager is engaged.

Messenger's Desk

Where a messenger is kept, a screened desk with one or two lock-up drawers should be provided, the desk being in such a position that the messenger is accessible to the manager and the staff, yet where he can, if necessity arises, stop a person from leaving the bank by the main doors.

Letter-Box

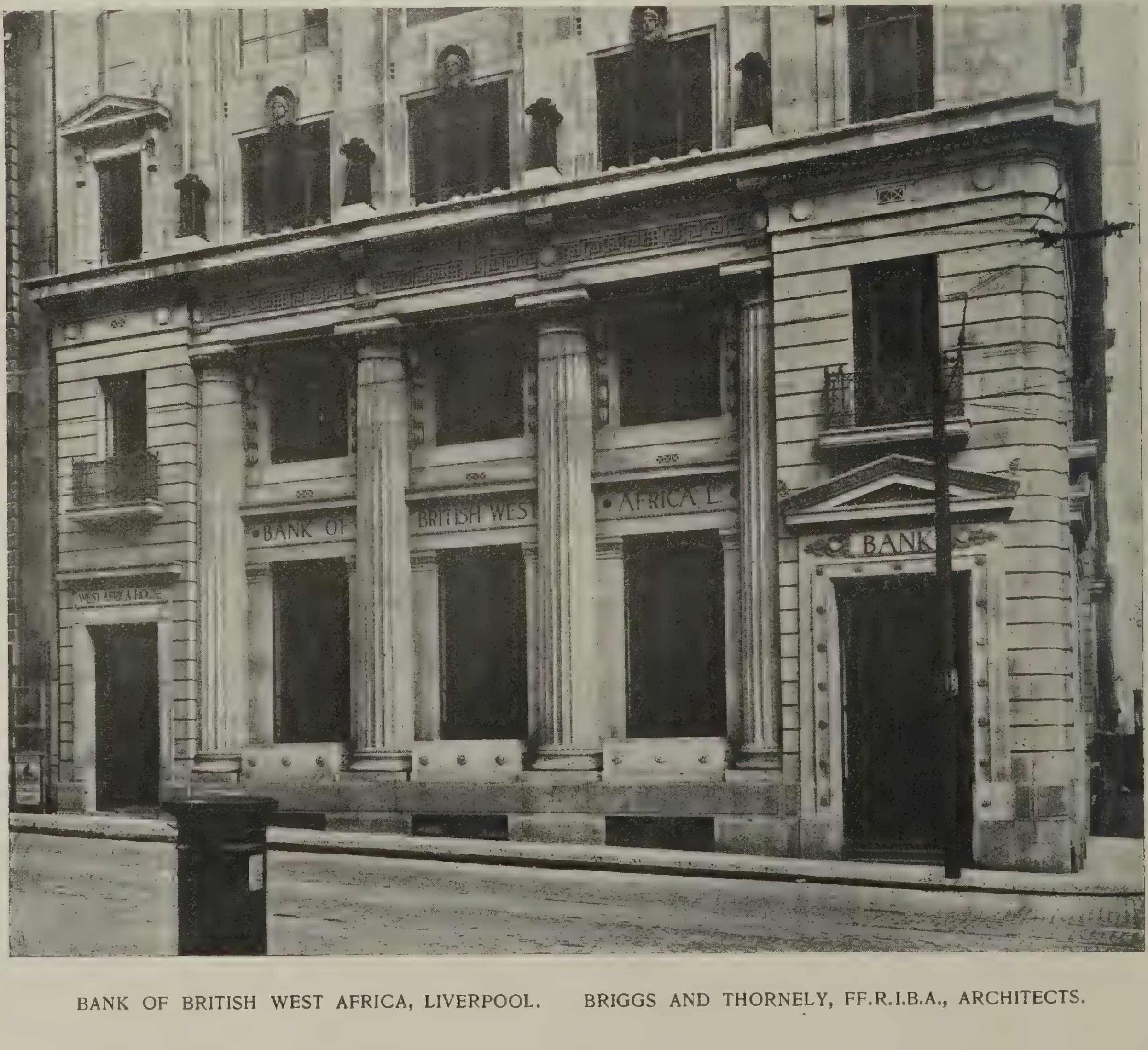
The bank letter-box must be strong and deep, fitted with some device effectually to prevent the extraction of letters, and have a large slot (10 in. by 1¾ in. minimum). If placed in one of the entrance doors it tends to weaken it and also to destroy the balance of the two doors, therefore it is better placed at a convenient position in the wall.

Fittings

The choice of materials for fittings is wide. The American architect in designing his counters usually chooses marble or some close-grained stone, but these materials, though economical in cleaning, and suitable with his massive bronze grilles, are unsuitable for the average English bank. Wood fittings are preferable for these, the kind of wood being governed by local circumstances. The counter should be 3 ft. 4 in. or 3 ft. 4½ in. high and 3 ft. 6 in. wide if there is no grille—if there is a grille it can be as narrow as 3 ft. 3 in. Its length is determined by the number of cashiers or other staff required behind it; 3 ft. for the cashier's desk and 3 ft. 6 in. for his serving space should be the minimum lengths.

If there is light to be gained, the front of the cashier's desks should be glazed, the glass being sufficiently opaque to obscure figures, and the desk should be kept back from the public side of the counter at least 12 in., so as to allow space for blotting-pads and ink for customers' use. The turned-up edge to the counter is now usually omitted, as it is inclined to make writing at these positions uncomfortable, and is an expensive form to construct. Likewise the former custom of fixing a brass slip to project slightly above the cashier's side of the counter is being abandoned, transactions being mostly in paper.

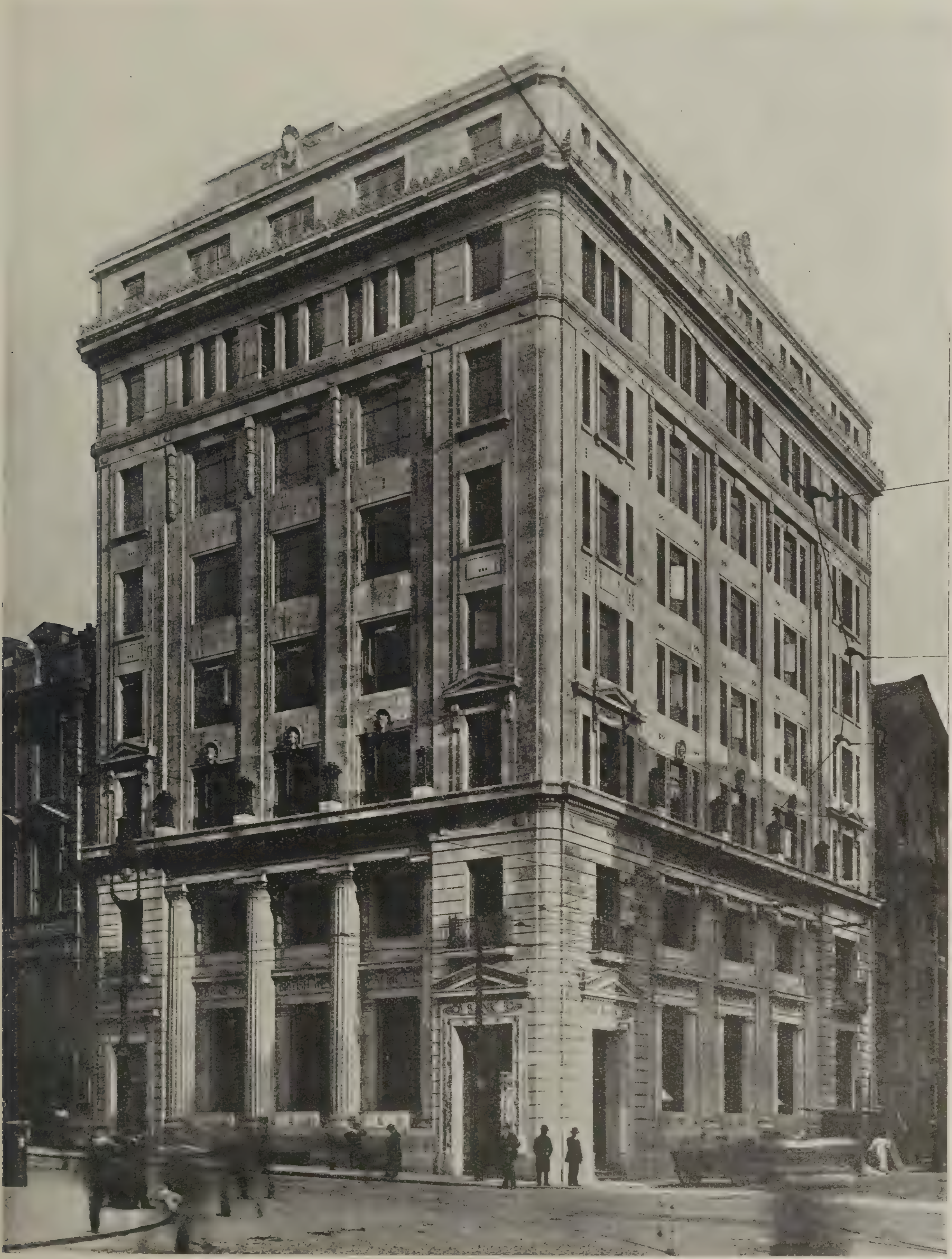
The cashier's serving space is, if feasible, to the left of the desk, to enable him to get back more easily to his ledger with his right hand. The till drawer, for the same reason, should be immediately to the left of his desk, and should contain



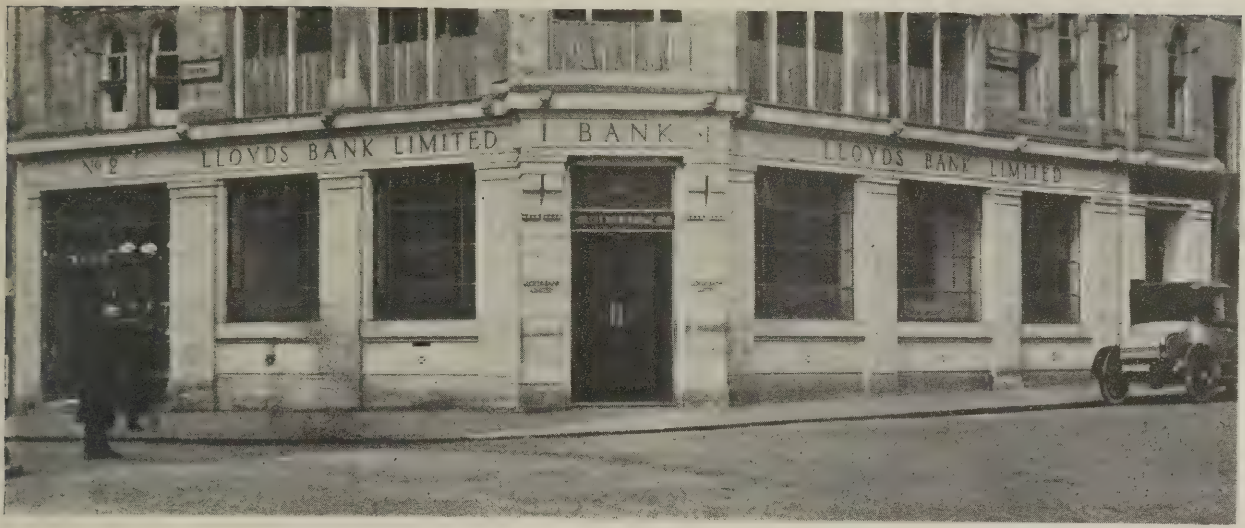
BANK OF BRITISH WEST AFRICA, LIVERPOOL. BRIGGS AND THORNELY, FF.R.I.B.A., ARCHITECTS.

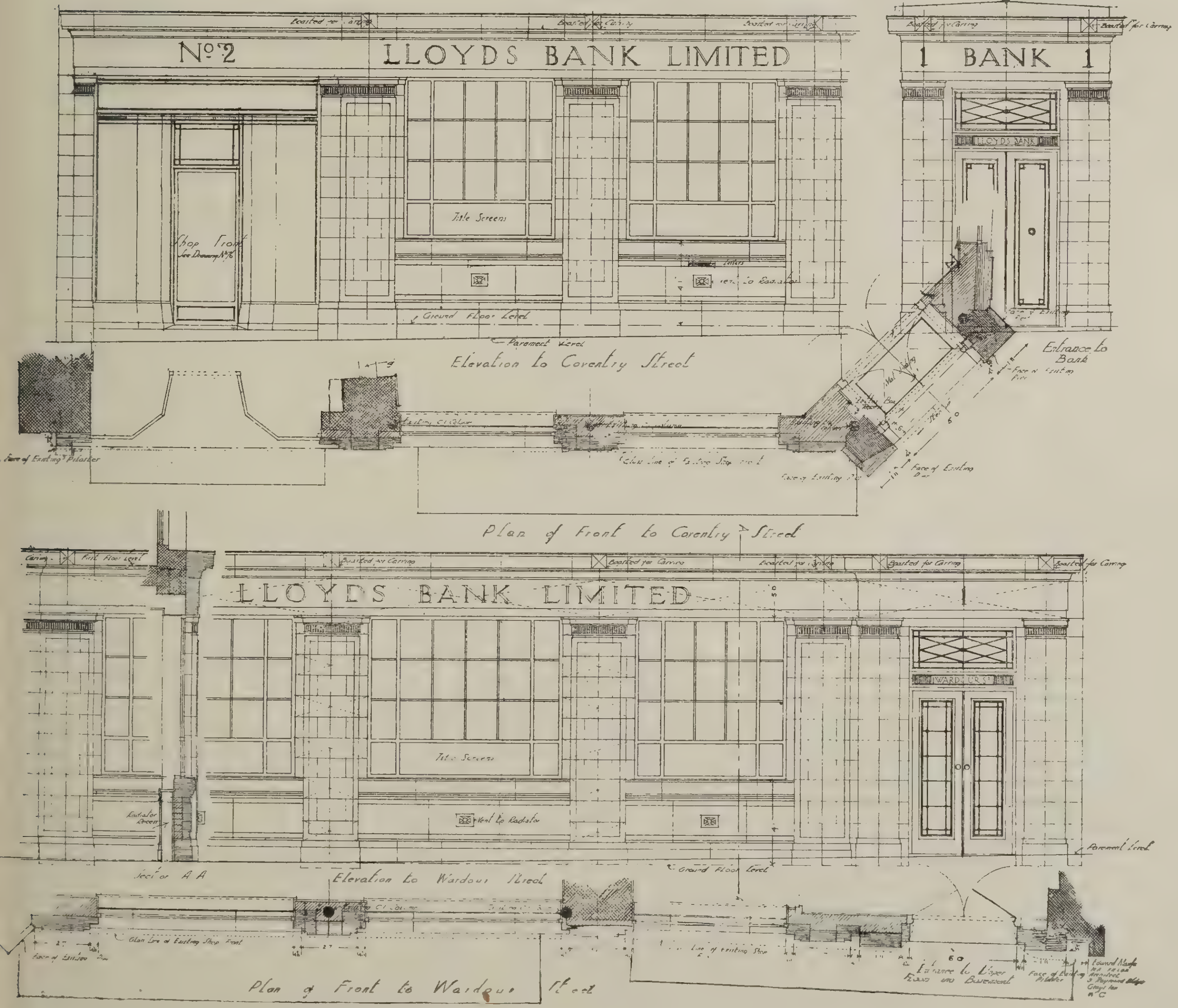
Current Architecture. 60.—West Africa House, Liverpool.

Briggs and Thornely, FF.R.I.B.A., Architects.

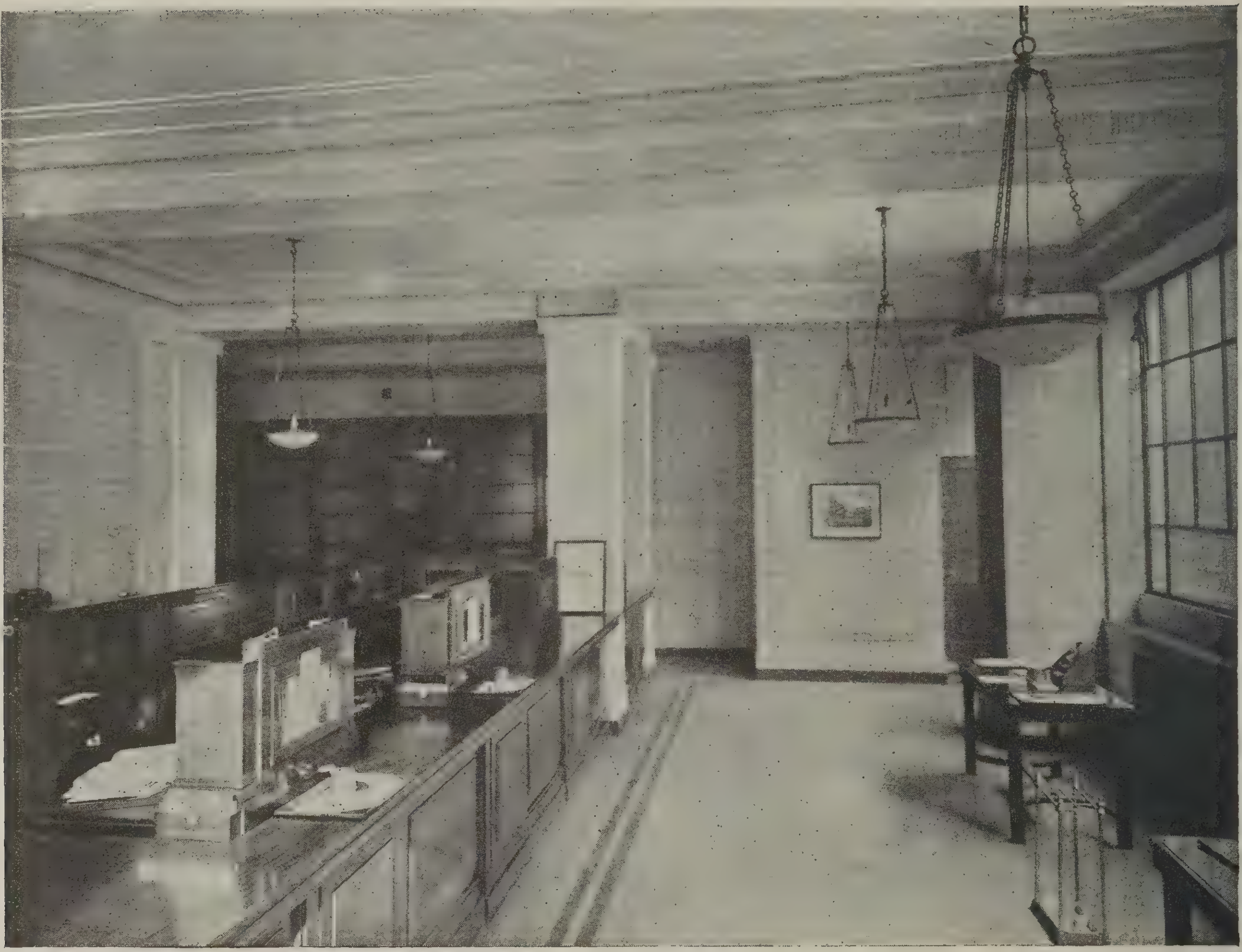


Messrs. Briggs and Thornely have here devised an extremely fine treatment for a big city building, following somewhat on the lines of modern American practice. The building is a steel-framed structure with a grey granite base and Portland stone facings. The Bank of British West Africa occupy the entire ground floor and most of the basement. The other floors, seven in number, are let as offices, the eighth floor providing lavatory accommodation.





BRANCH OF LLOYDS BANK, COVENTRY STREET, LONDON. EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.



BRANCH OF LLOYDS BANK, COVENTRY STREET, LONDON. EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.

specially constructed divisions for notes as well as for cash. The drawers must have strong runners, as they are opened and closed many times a day, and are frequently very heavy.

The pass-book slot in the counter should be near to the entrance, but the drawer or receptacle into which it gives must not open into the cashier's space—no cashier should need to handle a pass-book.

Cashiers' Cages

The cashiers are divided off from the rest of the staff, and may also be divided off from each other into "cages." On the Continent and in America these "cages" are general, but here they are customary only when the number of cashiers is large. The side divisions of the "cage" are to give cashiers protection from each other; in most of our banks sufficient protection of this kind is obtained by each having his own cash lockers behind him; these have spring locks and so can be readily secured even if the cashier is called away only for a few moments.

In larger branches a separate counter will be required for the security clerk, and this should be in a position where conversations may not be overheard. Behind the cashiers come desks for those departments linked up with them—"ledgers," "pass books," "deposits," "waste" (allocation of incoming cheques, etc.), "walks" (local exchange clerks), etc.

Ledger Desks

The ledger desks are placed approximately 3 ft. behind the counter and should be 3 ft. 5 in. high at the back, 3 ft. 7 in. at the front—(i.e., facing the public)—2 ft. 9 in. back to front; the spacing required for ledger clerks is (1) 5 ft. 6 in., (2) 11 ft., (3 and over) in multiples of 5 ft. A glazed screen 1 ft. 6 in. high runs along the front of these desks, and gives a certain privacy to the clerks, protects the cashiers' lockers in front, and overcomes the objection that many customers have, of seeing the bank staff ranged up in front of them. The gangway behind the ledger desks should be at least 3 ft. 6 in. wide to give easy passage for clerks with bulky ledgers; the remaining gangways may be as narrow as 3 ft. Desks for the rest of the staff are similar to those for ledger clerks but with the screen and cash lockers in front omitted, and spacing may be reduced to (1) 4 ft. 6 in., (2) 9 ft., (3 and over) in multiples of 4 ft.

When calculating the superficial area required for a specified number of clerks, the approximate figure to be taken is 30 super feet per clerk inclusive of gangways and passages.

Lock-up Drawers

Provision must be made in each desk for a series of lock-up drawers (5½ in. deep inside) on runners, and spaces for ledgers (20 in. by 15 in. by 6 in. maximum). The locks to each clerk's set of drawers should pass one key, and the manager should have a master key to all except till drawers and cash lockers.

The accountant will require a desk similar to the ledger clerks, or rather larger, and this should be within easy reach of the manager's room. In smaller branches, especially where there is no waiting room, it is desirable to encourage the manager to work in the banking hall, and to do this a screened desk must be provided in order that he need not constantly be disturbed to acknowledge each customer.

Pass-book cupboards with locks should be provided containing a series of hardwood trays which may easily be taken out and placed on the desk by the side of the clerk. For this purpose the trays should not be longer than the sloping portion of the desks (approximately 1 ft. 10 in.), the width of them being determined by the largest size pass-book in use in the bank. Trays of this description contain approximately thirty pass-books.

Typists' Rooms, etc.

Rooms should be set aside for the typists, for the sorting and filing of vouchers, and for the storage of stationery in accordance with the requirements of the particular bank in question.

Lavatories, etc.

The large increase in the number of women employed in banks since the war has caused the question of lavatories entirely to be reconsidered. Now, even in most of the smaller branches, it is essential that there should be both men's and women's lavatories, their position on the plan being governed by the usual conditions in such cases. In the women's lavatories especially ample accommodation must be provided for cloaks, and it is to be remembered that, even in a head office, as many as one-third of the whole staff may consist of women.

In country branches, accommodation is usually required for bicycles, for approximately one-third to one-half of the staff.

Strong Rooms

The term strong room is often loosely used to include two distinctly different types or rooms—(1) burglar and mob-proof strong rooms and (2) fireproof strong rooms. Burglar and mob-proof strong rooms present the more serious problem, for in this case modern offensive methods have lately gained over the defence put up against them, whereas in the case of fireproofing, the danger, being definitely known and constant, it has been met with an adequate safeguard.

But, owing to the development of such instruments as the oxy-acetylene burner the oxy-blau gas cutter burner and welding torch, no materials commercially available can be said to be proof against a prolonged and undisturbed attack upon them. This being so, the principle to be adopted is to lengthen the duration of the attack to the greatest possible time, which is yet compatible with an economical cost of construction.

There are many means of defence, but, as none of them can be said to provide absolute safety against the up-to-date burglar, the object must be delay. To effect this, the best procedure is to put up surprises by providing different alternate layers of protective construction. The chief of these are: (1) Anti-cutter burner alloys. (2) Strongly-reinforced concrete formed of specially dense cement and a non-hygroscopic aggregate. (3) Stout linings of steel of high tensile strength with tool-proof and cutter-burner resisting sections.

Besides these methods of construction there are many protective devices whereby every inch of the walls may be electrically connected to alarms. But with regard to the latter, reliance should certainly not be placed upon them to the extent of building merely a fire-proof strong room, fitted with electrical alarms, to be used as a burglar-proof one.

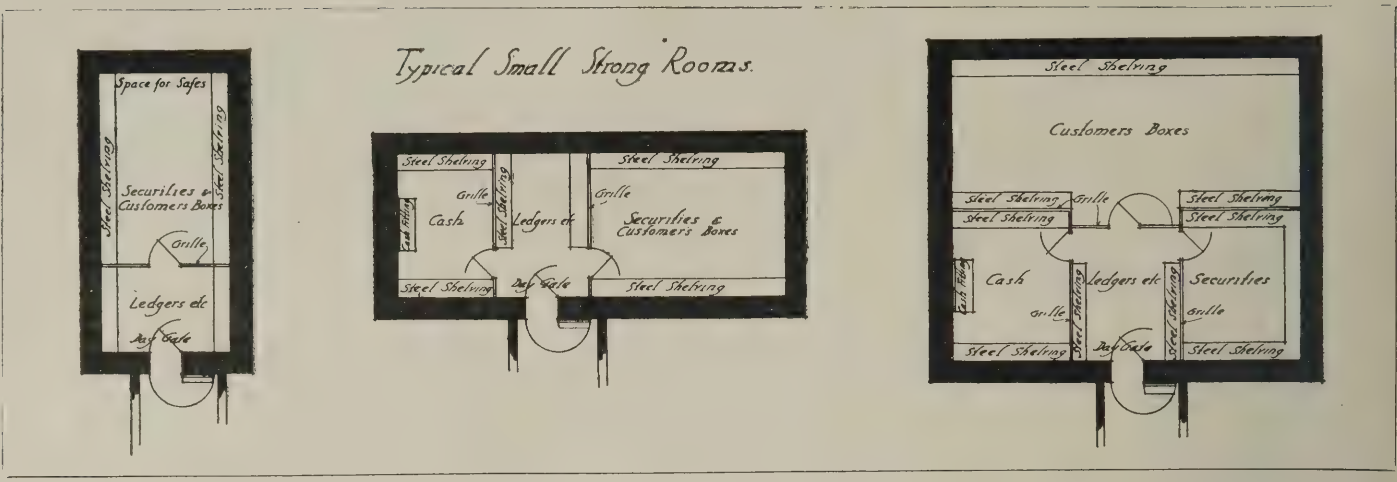
There is less difficulty in providing burglar-proof doors, principally because greater expenditure is permitted at this point owing to its being the place the most frequently attacked. In American banks, and in safe deposits over here, much importance is attached to the appearance of strength of the strong room door, in order that it may indicate to the customer, and possibly to the burglar, that the strong room to which it leads possesses the necessary elements of strength. To this end America has sometimes produced curiously bulky doors, bristling with massive hinges, levers, winches, bolts, and time locks.

Strong room doors are constructed in protective layers up to 3 ft. in thickness, the strongest form being the round door, made much after the manner of the breech of a gun. But when considering the type of door to be used it should be remembered that a just balance of strength between door and walls is the object to be attained.

From the foregoing it will be obvious that, for the small branch, it is not economically possible to build the strong room to give absolute protection—the cost is prohibitive. Therefore, besides providing the best construction permissible in the circumstances, every care must be taken to secure adequate supervision, and the best form of this is the unconscious supervision gained by grouping round it and above it rooms or passages that are in constant use. When the strong rooms are on the ground floor this is usually achieved easily, but when they are in the basement, frequently one has to fall back on a system of "patrols," i.e., passages all round which leave the whole of the walls exposed.

But no watchman, nor any system of patrols or reflecting mirrors, can equal the protection afforded by planning the strong room in such a position that persons must

MUNSTER AND LEINSTER BANK, CORK. ARTHUR AND HENRY H. HILL, FF.R.I.B.A., ARCHITECTS.



pass by all its walls sometimes during the ordinary daily work—on this fact the smaller bank must principally rely, while the larger bank, with its basement strong rooms, must depend on its protective construction.

Fireproof Strong Rooms

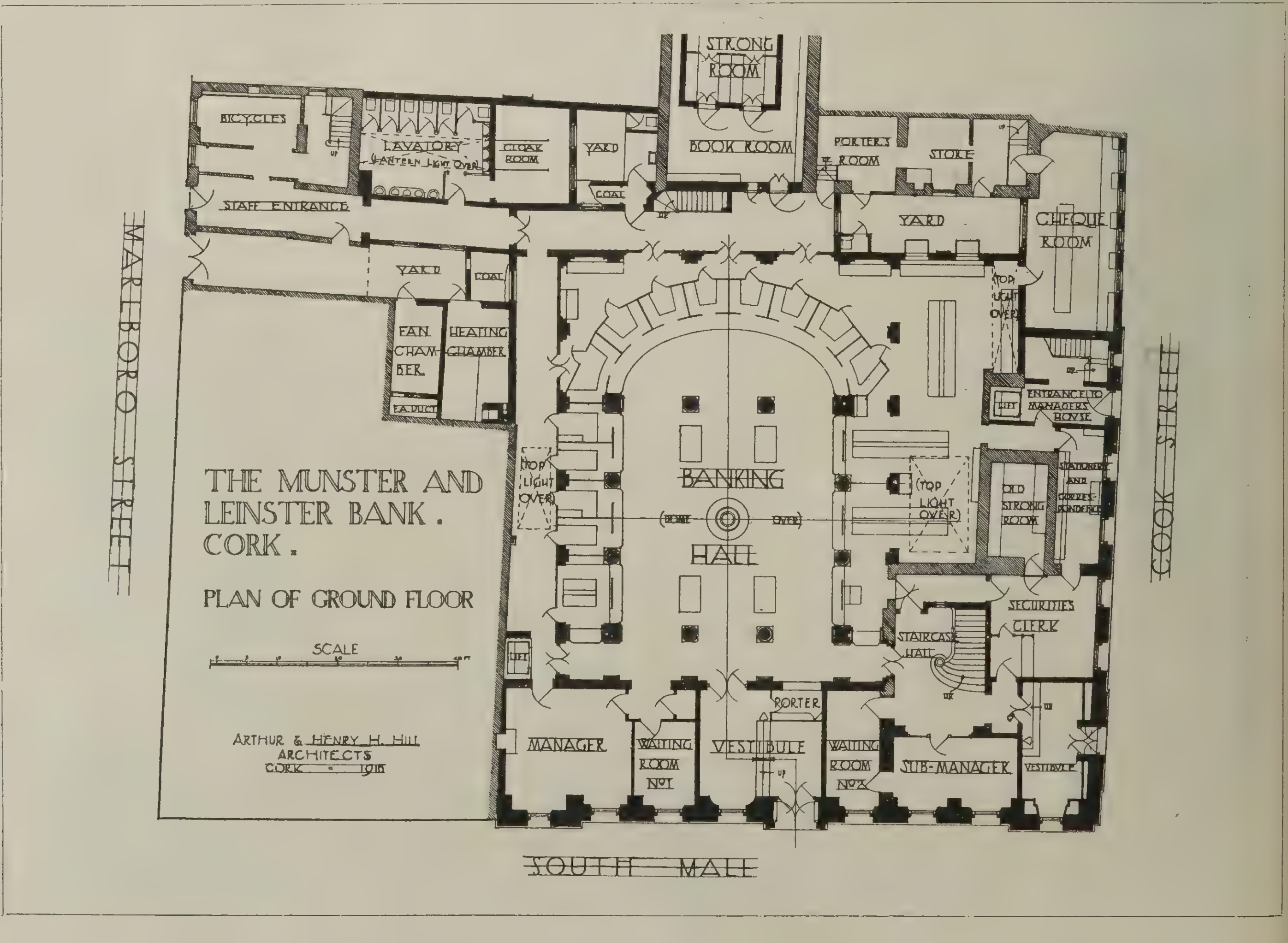
Fireproof strong rooms are used chiefly for the storage of ledgers and other books of importance to the bank, but unattractive to the burglar or mob. Any recognised form of fireproof construction will suffice so long as it is not only fireproof, but also is equal to withstanding the collapse-load of the building above.

Strong Room Planning

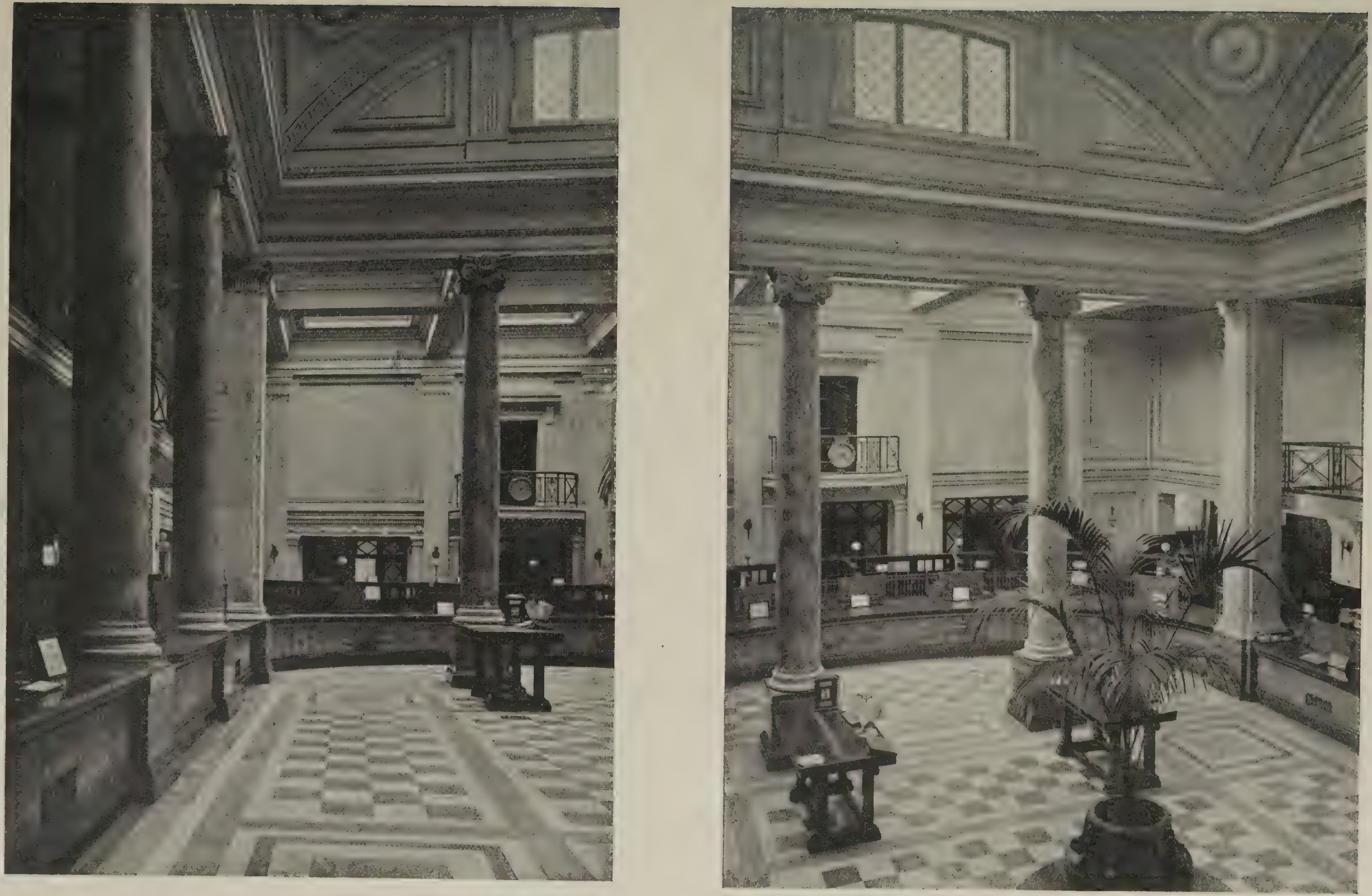
With regard to planning, the strong room must be divided up by steel grilles into the various compartments required—daily ledgers, cash, securities, customers' plate-chests, and deed-boxes. Even in the smaller strong rooms there should be one grille with dual control locks so that daily ledgers, etc., may be divided from securities, safes, and customers' boxes.

A simple system of dual control most be provided, i.e., the responsibility of supervision is shared between the manager and his next-in-command. The main door of the strong room opens outwards, and care must be taken that it can fold back against the wall, or the width of the opening will be diminished by the thickness of the door. Immediately inside is a grille "day-gate"—the main door being usually open during the day. The manager retains the key of the door and the next-in-command the key of the gate.

The English banker has been slow to realise the economy in space and upkeep of steel fittings, but these are now invariably the rule, adjustable steel bar shelves for boxes, and steel sheet for ledgers, with rollers for those to be placed on the upper shelves. No hot water or other pipes should be allowed to pass through the



MUNSTER AND LEINSTER BANK, CORK. GROUND-FLOOR PLAN. ARTHUR AND HENRY H. HILL, FF.R.I.B.A., ARCHITECTS



MUNSTER AND LEINSTER BANK, CORK : THE BANKING HALL. ARTHUR AND HENRY H. HILL, FF.R.I.B.A., ARCHITECTS.

strong room, nor should there be any live electric wires, except when the light is actually on, i.e. all wires should either be cut dead automatically by the closing of the strong room door, or the current should be carried in only by means of a flexible cord with plug connection. The latter method has the disadvantage that the door is frequently shut on to the flex and a fuse is blown, but it prevents the possibility of one of the staff being accidentally shut in as the extinguishing of the light gives warning that the door is about to be shut. In large banks where prolonged work may have to be carried on in the strong rooms, more elaborate methods have been devised against this danger, such as small gun breech pattern escape doors. For basement strong rooms there must be a lift for bullion, ledgers, etc., which are conveyed to and fro on trolleys which travel in the lift. Besides the fact the customers frequently send large and heavy boxes for safe custody, the bulk and weight of ledgers must not be overlooked—the daily registers in a head office bank may weigh from two to three tons.

Heating, Lighting, etc.

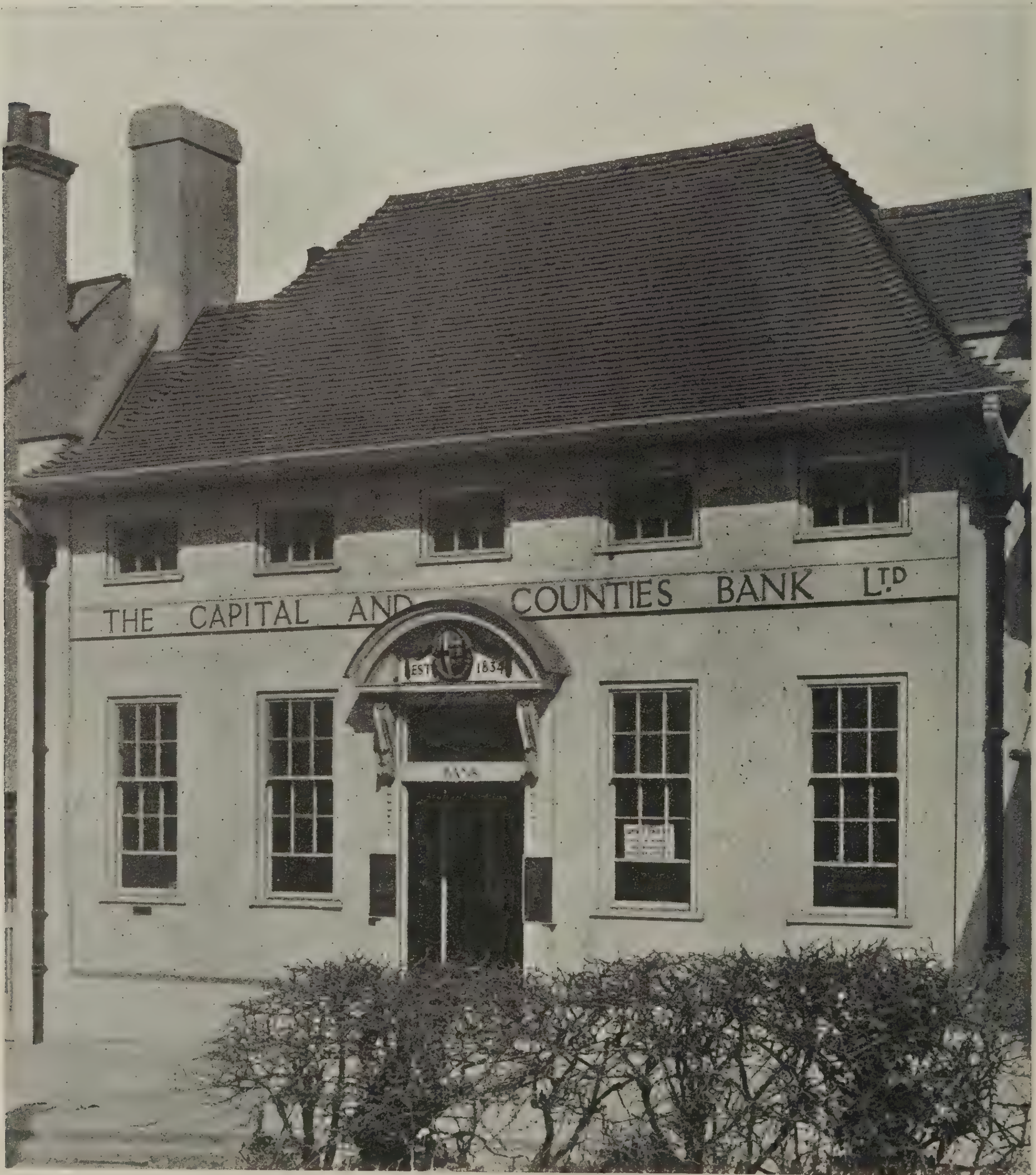
It is not proposed to consider heating, lighting, and ventilating systems in detail, since the conditions ruling in banks are much the same as in other buildings of similar character; though it may be noted that the introduction of the half watt lamp is causing overhead lighting largely to supersede the old method of desk lighting

Internal Decoration

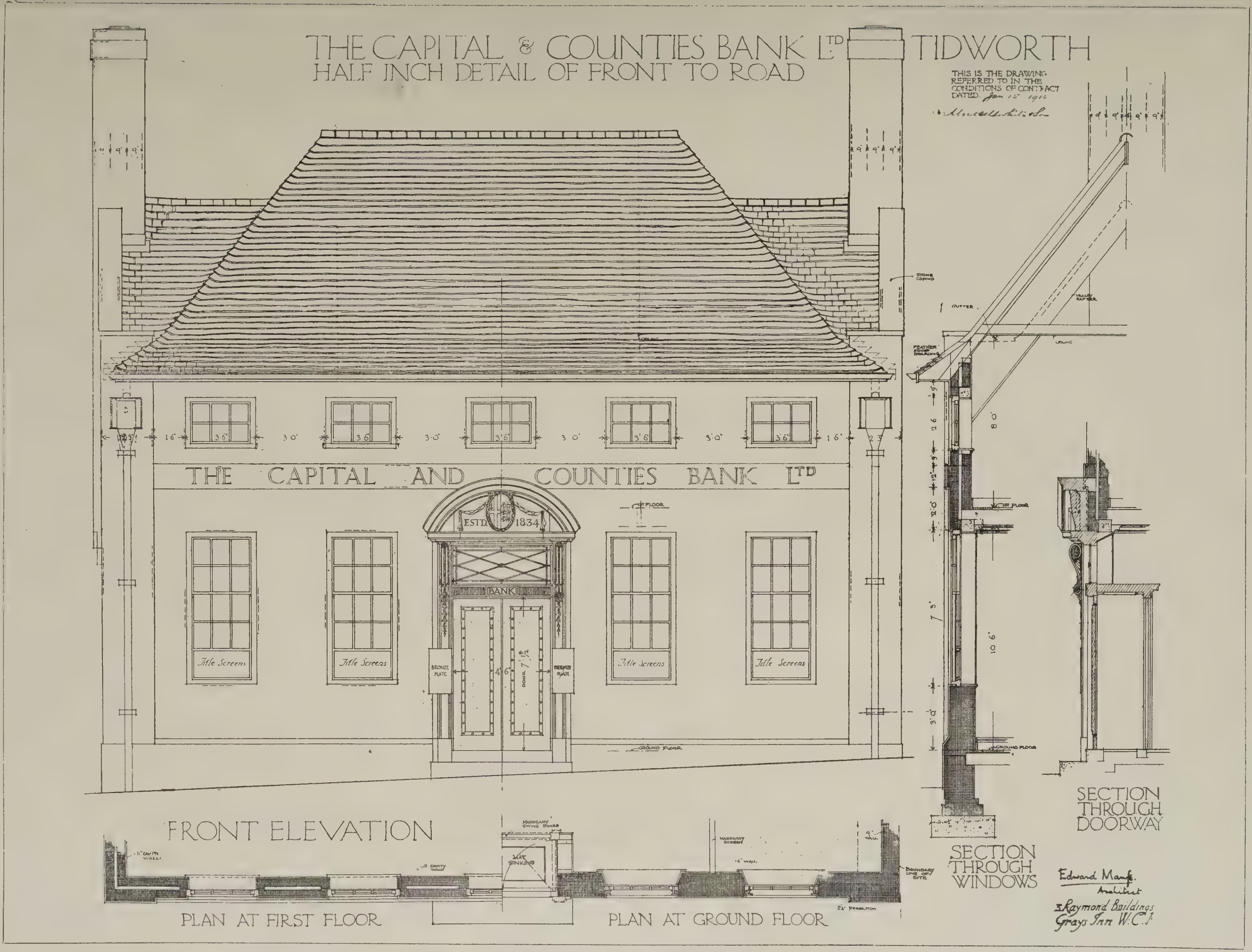
Internal decoration, too, is a subject not special to banks, but is determined by the taste of the architect, and the influence of local conditions upon that taste. One cannot do better than to refer back to the paragraph quoted previously, and hope that the bank may, by its simplicity of detail, its beauty of proportion, and the taste with which materials and colours are used, set a standard which will be of far-reaching effect.

In conclusion one must draw attention to the great responsibility that the " big five " in particular have taken upon themselves. They have many thousands of branches throughout the country, these being frequently the principal public buildings in their respective towns and villages, consequently their influence for good or bad is enormous.

The stuff from which architecture is made touches life at every point, the practical, the scientific, the æsthetic. It is not, as is popularly supposed, merely an affair of dates and technicalities, but is one that lies very close to us, that the banker, with his extraordinary influence, will demand only the best, for if this be so, it is most certain that the supply will not be lacking.



CAPITAL AND COUNTIES BANK, TIDWORTH, HANTS. EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.



CAPITAL AND COUNTIES BANK, TIDWORTH, HANTS. EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.

The Design and Construction of Strong Rooms

THE problem which faces the architect in the designing and equipment of strong rooms naturally varies with circumstances, and much depends upon whether he has to deal with existing premises. Should this be the case, he will need to exercise all the skill at his command in overcoming the constructional difficulties which always accompany an attempt to convert and adapt an existing arrangement of rooms to new and special purposes. If, on the other hand, the architect is preparing plans for an entirely new structure, in which strong rooms are to be provided the task becomes far simpler. Even then he will be well advised to bear in mind the following fundamental principles governing the design of all strong rooms.

Situation.—The rooms should be placed in the basement or sub-basement of the building. If, however, it should be required to have a strong room on each floor—as may be the case in a block of office buildings—the rooms should be built one above the other in the form of a tower.

Form.—Strong rooms should be rectangular in shape, as their purpose is the storage of rectangular objects.

Walls.—The walls should be so arranged that they are surrounded by a corridor. They should on no account be adjacent to adjoining property, and, moreover, they should in themselves, with roof and floor, form an independent structural unit of "island" form.

Roof.—In all cases this should be of such strength as will not only enable it to withstand the impact of heavy debris, but also to carry it in the event of the building collapsing during a fire.

Doors.—Entrance doors should never be less than 6 ft. 3 in. in height by 2 ft. 9 in. wide in the clear.

Passages.—These, whether in the rooms or surrounding them, should have a minimum width of 3 ft.

There are two classes into which strong rooms may be divided:

(*a*) Fireproof, for the protection of records against fire and the fall of debris.

(*b*) Burglar-proof, for the protection of valuables against fire and burglary.

Fireproof Rooms

Walls.—The walls of fireproof rooms may either be built of blue Staffordshire bricks set in cement mortar or reinforced concrete; but whatever the material the thickness should not be less than 14 in.

Floor.—As regards the floor, there are no special requirements to be complied with, and an ordinary concrete floor will be found perfectly satisfactory.

Roof.—In view of the very serious strains which the roof may be called upon to withstand, the greatest care should be bestowed upon its construction. It may either be constructed of reinforced concrete strengthened by girders of suitable section according to the span, or be vaulted in blue Staffordshire bricks set in cement mortar.

Door.—This is usually constructed of an exterior plate not less than ½ in. thick, and should be fitted with a lock-case and bolt mechanism (secured by an unpickable lock with at least eight levers) as a preventive measure against buckling in the event of an outbreak of fire. The door should be hung to its frame by means of strong hinges, which can be readily oiled, provided with hardened and wear-resisting pins. A fire-proof chamber or lining, charged with fire-resisting chemicals, should be fitted to the inner face of the door, which should also be provided with drill-resisting protection for the lock. The keys are invariably supplied in duplicate, and in case one is lost, new keys should be obtained to an altered combination corresponding with a fresh combination of the locks. By this means alone will the original keys be rendered useless.

Door Frame.—The frame in which the door is housed should be of the "vestibule grip" model, which embraces the entire thickness of the masonry wall. Among the numerous advantages obtained by the use of this type of frame may be mentioned: (*a*) The room and the door opening can be constructed and allowed to set, and the fixing of the door and frame taken in hand later, thus preventing the door and bolt mechanism from becoming rusty or dirty during building operations; (*b*) in case of a slight settlement in the building the door will remain unaffected as there is a clearance between the frame plates and the rough masonry jambs; (*c*) the doors, with a frame of this description, may, if necessary, be taken away without disturbing the masonry by merely removing the back or interior angle from the inside of the frame. This operation, however, can only be performed when the door is unlocked.

Grille Gate.—It is often a convenience to have a grille gate for use during the day. This has the advantage of keeping the room and records well aired, and prevents the place from becoming musty.

Steel Fittings.—Fittings should always be of steel, as wood harbours vermin, is far less cleanly, and while liable to rot, is also combustible. The most satisfactory kind of steel shelving is the "bar" type, though where space is restricted, adjustable shelving will be found in every way suitable. Steel cupboards fitted with adjustable shelves are the most convenient for deeds and documents, as they are dust and dirt proof, provide a simple means of filing, and give access only to the various officers in charge of them.

Burglar Proof Strong Rooms

In defining the term "burglar-proof," it must be admitted that what human ingenuity can make, it can as readily unmake, and consequently nothing can be made so strong but that something else can be made stronger.

It may be laid down, therefore, as a working principle, that the degree of strength which it is possible to impart to such rooms as are under consideration is only limited by the amount of money the client is willing to spend, and the length of time the contractor is given to carry out the work.

On the other hand, the burglar is limited to portable tools and a long week-end; that is to say, from Saturday night until Wednesday morning, assuming a Christmas day falls on a Monday. It must also be assumed in a burglar-proof structure that the watchmen have been overcome either by force or collusion, and that the room itself must be capable of resisting an attempted robbery. A burglar-proof room, therefore, must be strong enough to checkmate a burglar for the period named; in other words, the burglar, with his portable tools, must either be given more work than he can do in the time at his disposal or the utility of his appliances must be absorbed before that time has elapsed. There are several means of attack for the burglar, but he must enter either through the doors (by releasing the bolt mechanism), or by cutting a man-hole through the walls or roof, or undermining and getting through the floor. It necessarily follows that the walls, the floor, the roof, and the door must be of equal strength. The provision of a room which will afford this degree of security thus becomes of greater importance than the question of cost. It will be readily recognised that the light reinforced-concrete structures or the blue Staffordshire bricks cannot withstand successfully an attack of the nature which would last for the period stated, but such materials do afford a good outer line of defence if placed round the burglar-proof central strong room.

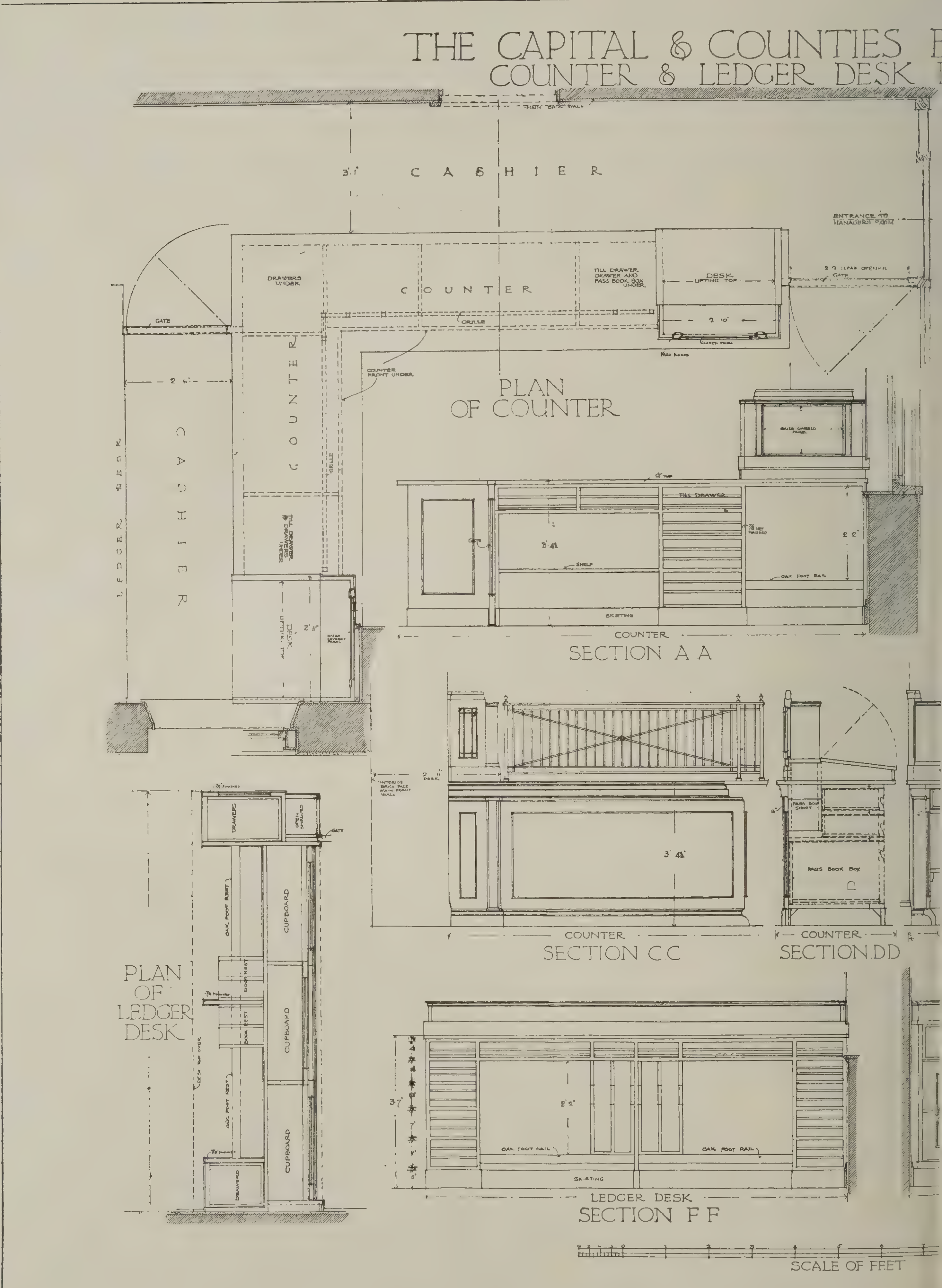
Walls.—The system of construction for the walls of the central burglar-proof strong room or treasury presents several features of interest. While the various safe-making specialists have evolved numerous ingenious methods of solving this vital problem, these, which often differ very materially from each other in points of detail, may be broadly and collectively described as consisting of a combination of concrete and steel. Some makers adopt steel rails, others girders, and yet others bars—either flat, round, or in the form of angles. The metal used in certain of these constructions is further strengthened to resist that most formidable weapon in the hands of the burglar, namely, the oxy-acetylene blow-pipe.

Roofs and Floors.—These are constructed on precisely the same principle as the walls. It may be said, however, that the roof of the strong room can be made to support the floor above, and, further, that there are situations in which the floor of the strong room need not be so heavily constructed as the walls and roof.

The Door and its Furnishings.—Doors of burglar-proof rooms must be able to meet all the requirements demanded by the circumstances already set forth. They should be secured by movable bolts at the top, bottom, and front, and by a fixed continuous bolt (or sliding bolts) at the back. These in their turn should be fitted with at least two key locks (of not less than eight levers) of an unpickable type. It is necessary to have this large number of levers in order to ensure that the combinations differ sufficiently. If a chronometer time-lock is employed in place of a combination letter-lock, it should be of the triple chronometer type with three clocks, each of which—running for seventy-two hours—will operate the mechanism in the event of the failure of one, or perhaps two, of the clocks. Combination letter-locks are sometimes used as alternatives to key-locks, but many people feel that their doors are not locked unless they have a key in

Architects' Working Drawings. 28.—Details of Counter ar

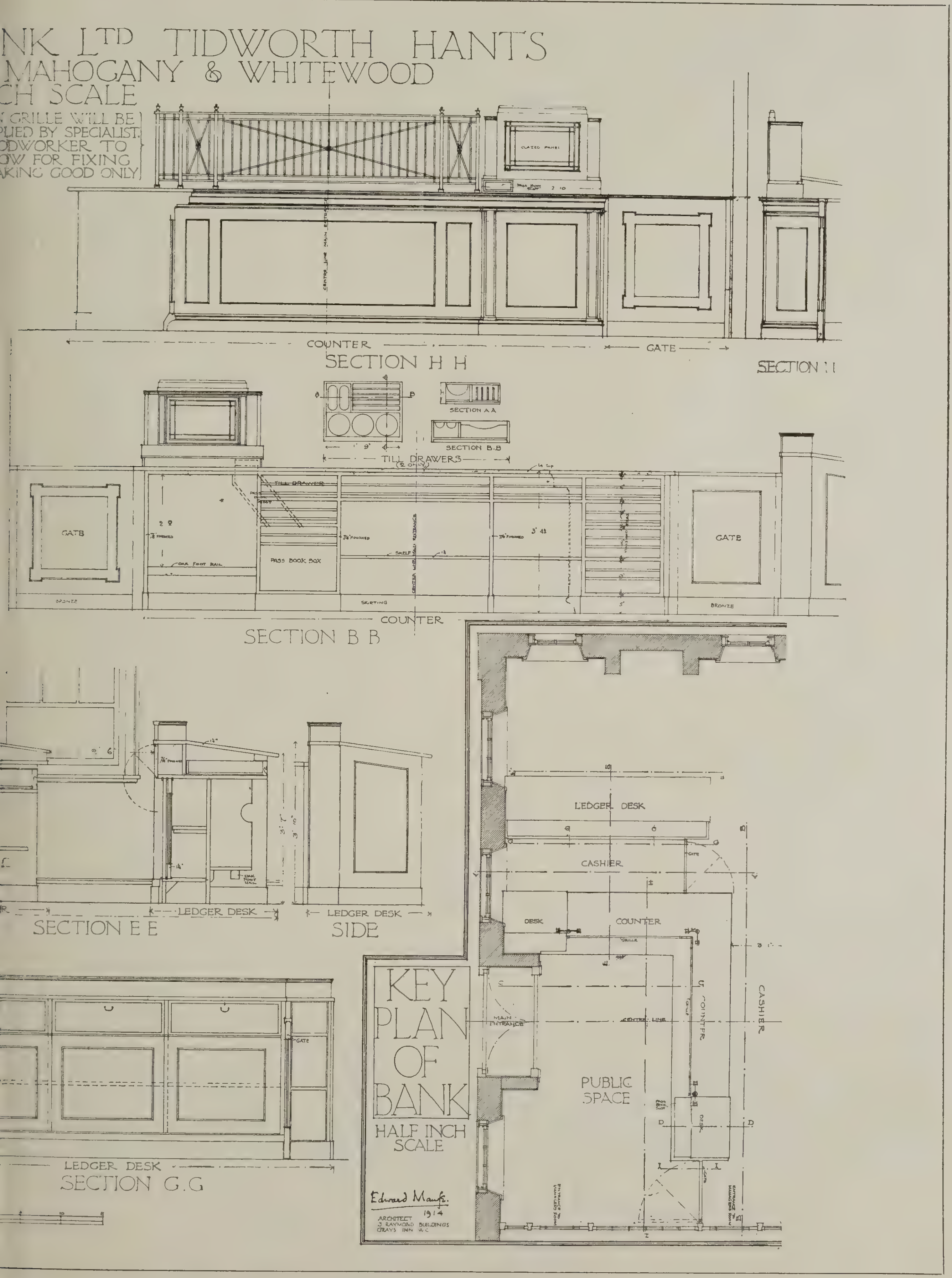
Edward Maufe, M



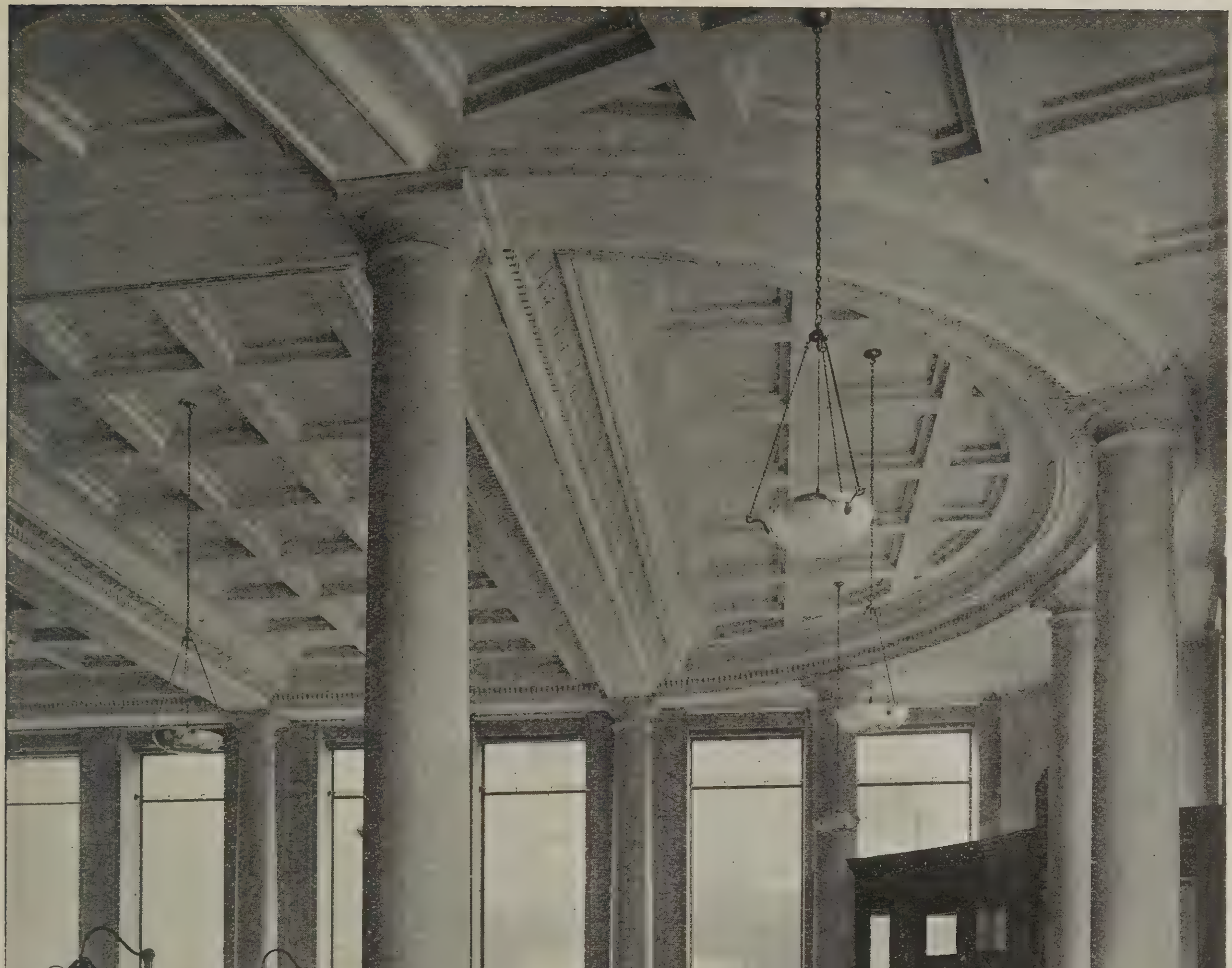
This drawing shows a typical arrangement of the counter and ledger
construction, and arrangement of these fixtures is given under

Ledger Desk in Capital and Counties Bank, Tidworth, Hants

, F.R.I.B.A., Architect



a small branch bank in a country town. A full description of the design,
ing "Fittings" in the article by Mr. Maufe which begins on page 240.



UNION OF LONDON AND SMITHS BANK, REGENT STREET, LONDON: VIEW IN BANKING HALL.
DUNN, WATSON, AND CURTIS GREEN, FF.R.I.B.A., ARCHITECTS.

their pocket. The main objection to combination locks is that they are difficult to open except in a good light.

Self-locking devices on doors are seldom used in this country. Their principal disadvantage is that they are very liable to get out of order, and thus fail to lock the door or cause some unfortunate individual to be shut inside when the time-lock has been set for seventy-two hours, and thus force him to remain there until that period has expired. The writer once had the experience of being shut in an empty building in the City by a housekeeper (who was in the strong room with him) closing a grille gate fitted with a spring lock. He had not the keys, and when told we were caught like rats in a trap, was reduced to a state bordering on panic. Most fortunately, the lock did not "dead" lock, and by means of a tiepin and penknife we were able, after some two hours' work, gradually to work back the bolt and release ourselves.

Conversion Work

It often happens that existing strong rooms, which are quite satisfactory from a fireproof point of view, have to be converted into burglar-proof rooms, either because the institutions using them have grown in importance or find that they have valuables to protect which were formerly lodged at their bankers. Such conversion may be accomplished by (a) adopting one of the systems suggested under "Walls," or (b) providing a lining (of not less than 2 in.) consisting of burglar-proof steel which will resist the oxy-acetylene blowpipe. In all cases the steelwork should be bonded to the existing masonry by granite and cement concrete and stancheons, and special care taken to see that the roof is of adequate strength. In dealing with adaptations of this intricate character, the architect will be well advised to act in consultation with a firm of bankers' engineers of the highest standing and repute.

Watertight Doors

It is sometimes necessary to make strong-room doors watertight, and however remote the contingency may appear to be, every circumstance should be carefully considered before it is finally decided that this additional means of safeguarding the contents from injury by water need not be provided. Strong rooms have, for example, been flooded through the bursting of a sewer or water-main, or after a fire, owing to the water not being able to escape from the basement. In one such case, where no watertight door had been provided, deeds of very great value were rendered undecipherable.

There are two methods by which strong room doors may be made water-tight. One is to cover them with an entirely separate water-tight door, such as those used for ships' bulk-heads, while the second is to fit the door of the strong room with a special cramping-down arrangement, and shut it down on a copper, leather, or rubber seating.

Bankers' Strong Rooms

Bankers' strong rooms may be divided into three categories:

(*a*) Rooms for head offices;

(*b*) Rooms for large provincial centres;

(c) Rooms for ordinary country branches.

Head office strong rooms should be built in accordance with the principles already laid down for burglar-proof rooms, particular care being taken not only to provide ample accommodation for immediate requirements, but to allow for expansion during the next thirty years. This period represents the average life of a city building, and judging from the progressive improvements of the past, as well as the more rapid developments anticipated for the future, may also be considered as a reasonable estimate of the time during which a strong room may be expected to remain effective and efficient.

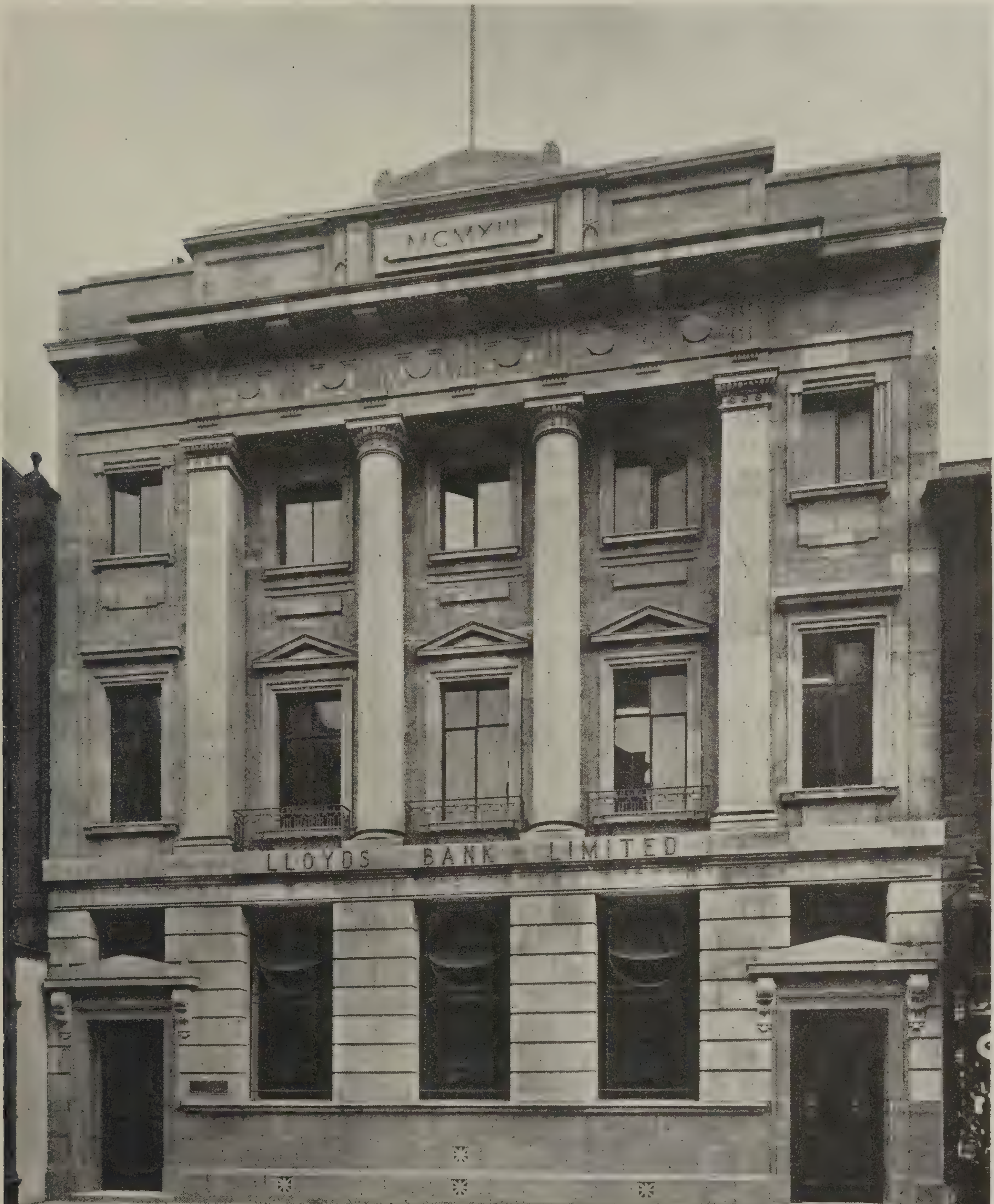
The strong rooms of branch offices in large provincial centres correspond very much with head office rooms, and the degree of security required is the same, although the space to be provided is generally much less. Speaking generally, these rooms have to perform the same functions.

For branch banks it may generally be laid down that rooms for these should be built of blue Staffordshire brick embedded in cement, or of reinforced concrete with "fall"-proof roofs as previously described.

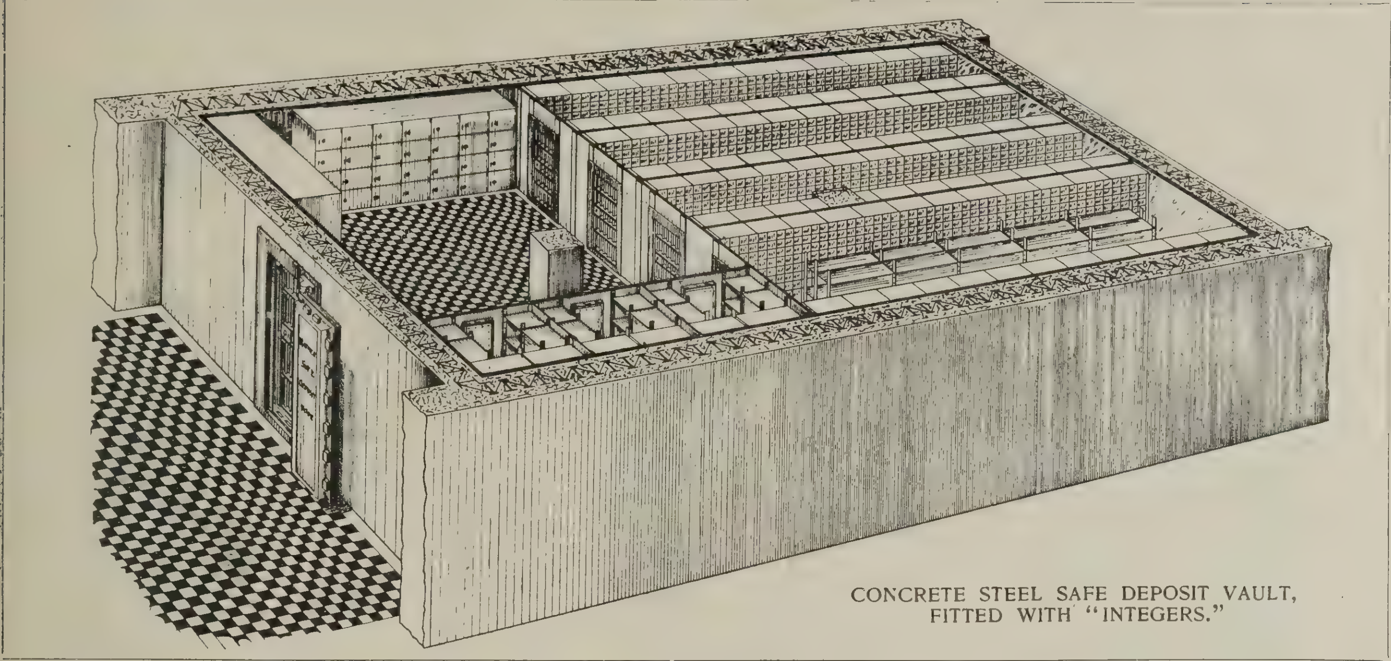
LLOYDS BANK, SOUTH SHIELDS. SYDNEY D. KITSON, F.R.I.B.A., ARCHITECT.

Current Architecture. 61.—Lloyds Bank, South Shields

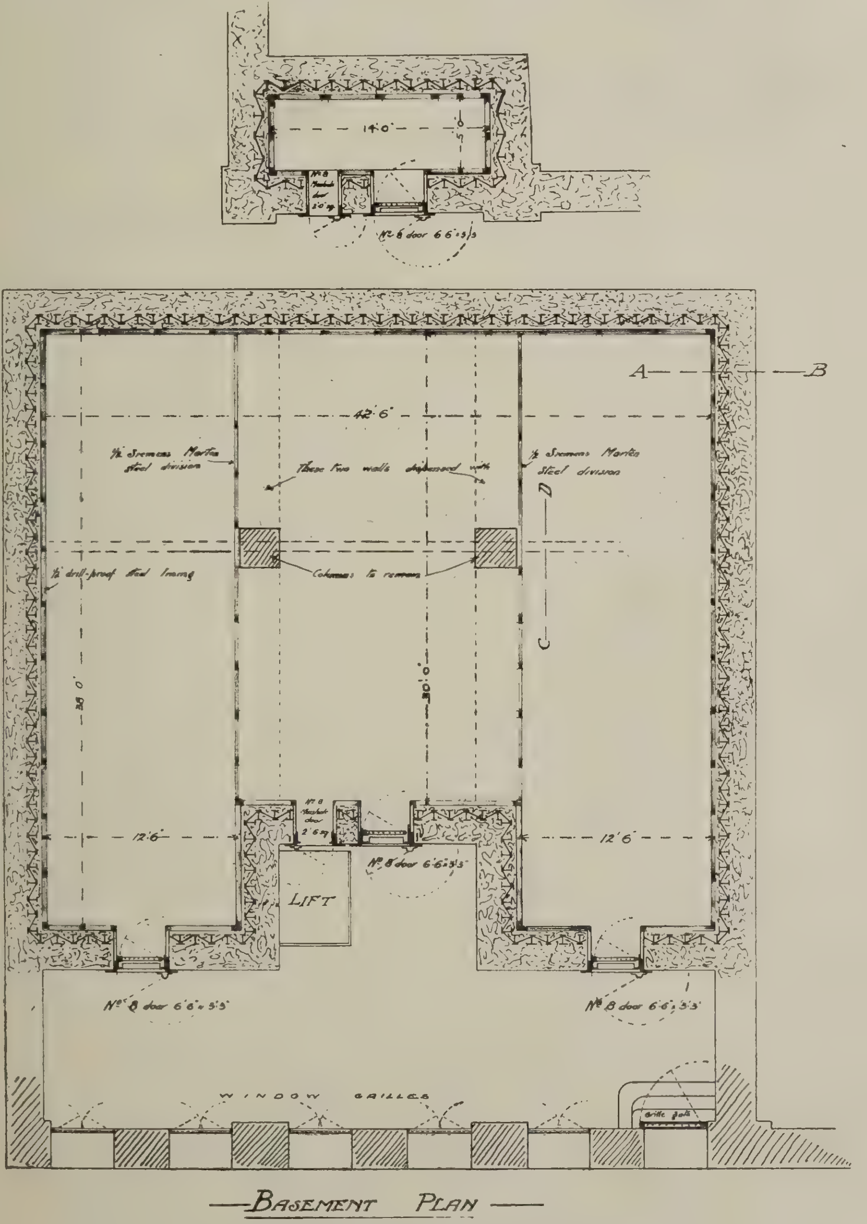
Sydney D. Kitson, F.R.I.B.A., Architect



Mr. Kitson has designed a number of very dignified branch offices for Lloyds Bank Limited in the Yorkshire district, the above example being typical in the strength and simplicity of its architectural treatment.



CONCRETE STEEL SAFE DEPOSIT VAULT, FITTED WITH "INTEGERS."



CONCRETE-STEEL SAFE DEPOSIT VAULT.

It is stipulated by nearly all banks that the entrance doors and grilles should be of dual control type, and should be at least thief-proof and fire-resisting; that is to say, a grade above the ordinary fire-resisting doors. The door, which should not be less than 1⅞ in. in thickness, should have two different types of locks, such as an eight-lever unpickable lock and a double-bitted lock, or alternatively a changeable key lock.

A burglar-proof safe for cash and bearer bonds should be provided inside the strong room, constructed of oxy-acetylene-and-burglar-proof steel not less than 2 in. thick, and the fittings should be of steel. Ventilation can be effected by means of automatic air inlets designed to close in the event of fire.

Ventilation and Lighting

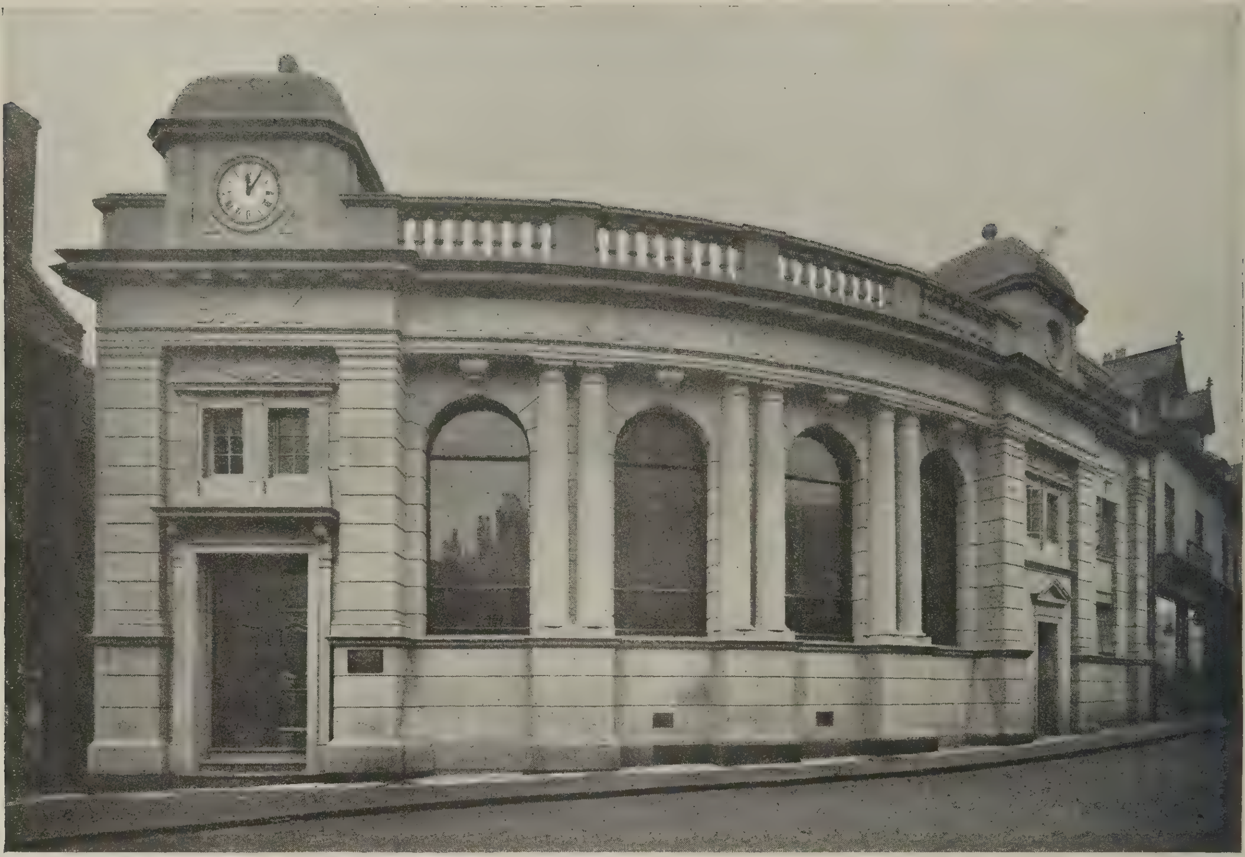
The ventilation of fireproof rooms is best accomplished through automatic ventilators which cut out flame in case of fire. In the case of burglar-proof rooms, it can only be effected through the doors by means of induced air. The system in general use is to instal ducts (opposite the doors) through which electrically-propelled air is forced, the extraction being effected by fans.

The lighting of all strong rooms should be electric, and the wiring placed in steel tubing. Connection should always be broken at the door by a short length of flexible, with plug and socket on the outside of the room, so that there can be no direct current in the room when the door is closed.

Methods of Burglary

A few words on the procedure and equipment of the modern burglar will doubtless prove of interest, if only as a means of demonstrating the very great difficulties which the constructors of strong rooms have to overcome in defeating the feloniously inclined.

The remarkable progress in technical knowledge made in recent years enables the modern burglar to employ methods of attack only to be met by means of resistance, in which science plays an increasingly important part. He now has at his disposal an almost limitless armoury, and his weapons are the products not only of



LONDON JOINT CITY AND MIDLAND BANK, TAMWORTH. GOTCH AND SAUNDERS, ARCHITECTS.

advanced mechanical knowledge, but are augmented by the science of chemistry.

Among the most formidable of his equipments is the oxy-acetylene blow-pipe. With this apparatus, weighing about two hundred pounds, he can cut a hundred feet run of any type of hard or soft wrought-steel plate of a thickness of half an inch. It must be conceded that this is a performance which, in proportion to the weight of his outfit, represents a prodigious amount of portable energy.

Furthermore, the instrument is in very general use commercially, can be easily obtained, and through its employment during the war, is almost universally understood. When used with skill it is almost silent in operation, and most certainly could not be heard from the outside of a building while in use in the basement or interior. Moreover, the light given off by it is not particularly illuminating, and can be easily screened. Of modern methods this is the most accessible, dangerous, and effective, as practically all strong room doors older than thirteen or fourteen years will be found to yield to it in about an hour.

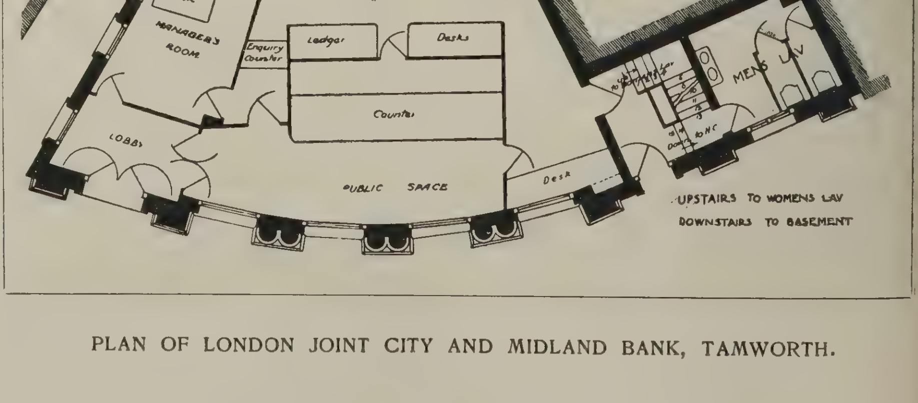
There is also the more ordinary plan of attack by means of explosives, which permit the thief to enter the strong room or safe, and dash off in a motor car with the contents. The less scientific or spectacular thief will probably content himself with such implements as cutting-tools, forcing-screws, wedges, levers, drills, and other devices of equal potency.

Some Special Examples

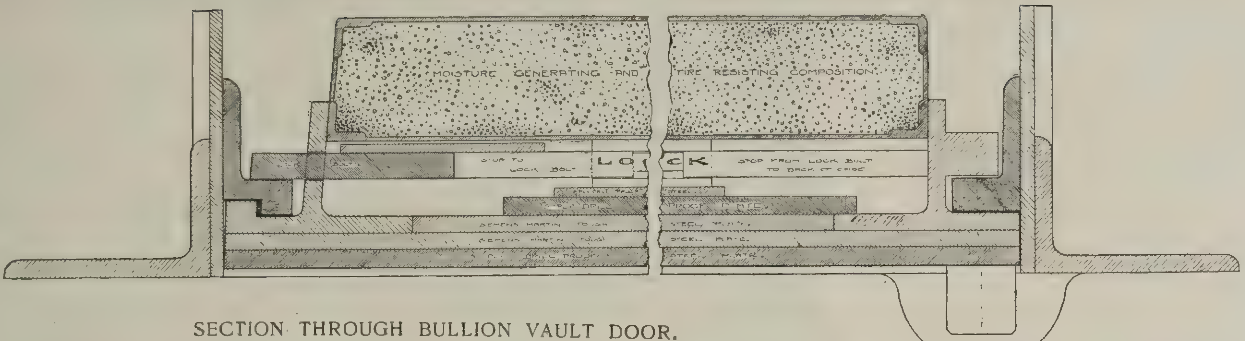
The illustrations on page 261 show typical examples of the girder system of construction for strong rooms adopted by the Ratner Safe Company, Ltd. Strong rooms constructed in this way sometimes have an inner lining which varies in thickness from $\frac{1}{2}$ in. Siemens Marten steel to $1\frac{1}{2}$ in. steel, which is said to be both drill-proof and proof against the oxy-acetylene blow pipe, the latter method of construction being of enormous strength.

One of the drawings shows all the details of a complete safe deposit fitted with "integers," tiers of shelving, cupboards, and strong rooms. The integers are small safes let at rentals, according to size, and are fitted with double locking locks, one key being held by the custodian and the other by the renter. The cupboards are for renters who require more room than that given in the integers and less than that in strong rooms, which are usually hired by trustees of very large estates, stock brokers, lawyers, etc. The shelving is for storing parcels, boxes, etc., deposited frequently by people going abroad, at a definite annual charge. Perfect protection against fire and burglars, and absolute secrecy are thus obtained.

Where it is necessary in bank strong rooms to ventilate the room and at the same time ensure against the possibility of flames passing through the ventilator should the building in which the strong room is located be destroyed by fire, it has



PLAN OF LONDON JOINT CITY AND MIDLAND BANK, TAMWORTH.



SECTION THROUGH BULLION VAULT DOOR.

been found difficult to design an efficient ventilator. One type of ventilator constructed by this firm after the principle of a safe body, with the box bent at the four corners, has been approved by numerous architects, and has been adopted by many of the leading banks. Perfect ventilation is obtained, as there is a free passage for the air, and fire and flames are effectually stopped by the baffling arrangements of steel angles, which are placed vertically in the ventilator and staggered. The baffles are constructed of mild steel and fixed firmly in the wrought-iron ventilator, a grate being provided both outside and inside. Four mild steel flat baffles are extended through the ventilator, top and bottom, to provide a simple means of fixing in walls for extra security.

Another ingenious type of ventilator made by the firm is constructed of a cranked pipe inserted into the wall at the inside end of which there is a perforated cap securely screwed on to the flange of the pipe. At the outside end is another perforated cap similarly attached, and over this and securely fixed to the wall of the strong room is a frame enclosing and holding a plate which forms the trap-door. This plate is hung by a fusible wire above the aperture of the pipe, and arranged in such a way that when the wire melts (which it does at a very low temperature) the plate drops into the groove made for the purpose, and is held securely in position against the aperture of the pipe, thus entirely preventing access of the flames into the strong room. For proper circulation of the air all strong rooms should be fitted with two such ventilators, one placed near the top of the room and the other at the bottom, preferably at opposite corners.

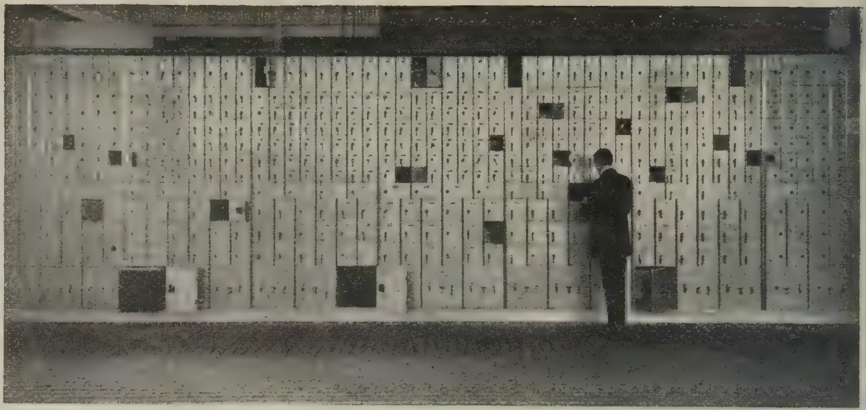
Some Special Features

In the type of strong room door illustrated above, Messrs. John Tann, Ltd., have incorporated devices which hold the bolts of the door secure even when the locks have been entirely destroyed either by high explosives, or by the oxy-acetylene blowpipe. The whole of the surface of the door is composed of drill-proof, unbreakable steel, which makes it impossible to drill through the door at the edges and destroy the lock bolts where they enter the frame. Another feature is the inter-

LONDON JOINT CITY AND MIDLAND BANK, TAMWORTH. GOTCH AND SAUNDERS, ARCHITECTS.

locking bevelled wedge proof bars at the front shutting edge of the door.

With regard to the firm's steel rooms, special mention should be made of the Standard treasury construction, the interior of which is fitted throughout with chambers containing patent moisture-generating non-conducting composition. This, besides surrounding the contents of the room with a non-conductor, as in the case of a masonry room, also provides a means by which the walls take the form of a continually damp, non-conducting mass in the case of a fire, and, as the heat increases, further moisture is liberated, so as to prevent any possibility of the contents being scorched. In addition to strong room shelving, this firm are now making a new form of adjustable shelving, in which the shelves can be raised or lowered to any position with ease.

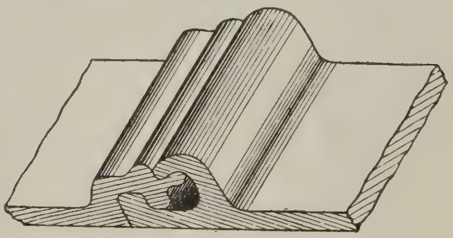


STEEL SAFE DEPOSIT LOCKERS.

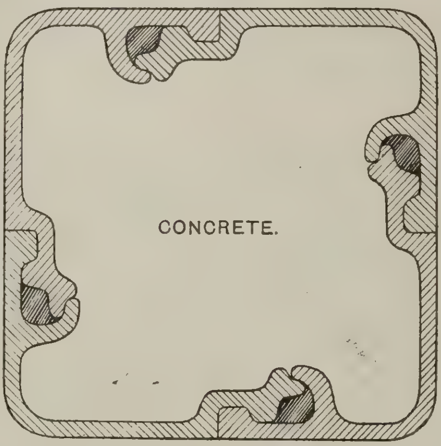
Interlocking Steel Plate Construction

A new departure in strong room construction for banks is Chubb's triple treasury, which has been designed to offer great resistance to every known form of attack—burglars, mobs, fires, flood, or earthquake. The idea is, as the name implies, that of a triple room, made up of three independent chambers, placed the one inside the other, each of which offers resistance to different methods of attack. Chiefly notable is the construction of the outside room of all, which is built up of a series of interlocking steel plates, so designed that no screws or rivets are required for the vertical joining. In erecting this room the plates are all slid or sometimes folded into position and keyed together.

The upper illustration adjoining shows how the plates interlock; after they are finally slid home they are further fastened, either with a circular rod driven down the key way, or by filling the space with a special material to make a rust joint. It is quite impossible to fold these plates into or out of position unless they are specially prepared for so doing. With this construction the interlockers can be made into a solid corner of enormous strength. The roof and floor are secured to the walls by heavy angles into which blind holes are tapped, and screws are inserted from the inside of the room right through the interlocking plates into these angles.



SECTION OF INTERLOCKING STEEL PLATES



COLUMN CONSTRUCTION WITH INTERLOCKING STEEL PLATES.

In erecting the triple treasury with an outer wall of interlocking steel, the floor of interlocking steel is first laid and then covered on the inside with a foot of an exceedingly hard mixture of concrete mixed up with other materials to resist the action of the blowpipe. After this hard floor is laid the drill-resisting steel treasury of a thickness of an inch or more is erected. This innermost room is built up of compound armour-plate construction, and all component slabs are tongued and grooved, or stepped into each other; hard steel stranded rivets and screws being used for joining the plates together. When this inner steel treasury is erected, the intervening foot of space between its outside walls and the inside of the interlocking walls, including the roof, is filled with the same hard mixture as the floor, spaces being left for the purpose where one or two of the roof interlockers have not been pushed right home. The last interlocking roof plate is then put into position, and this done, the triple room of, firstly, interlocking steel, secondly, anti-blowpipe material, and thirdly, hard steel treasury, is complete.

In the case of a very large room it is often necessary to support the roof with columns, and in this instance the interlockers again are employed, as shown by the lower illustration in the middle column. When the hollow shell is erected the centre is filled up with concrete.

Two types of doors, weighing respectively five and a half and four tons, are used for this construction. The former includes three inches of tough and drill-resisting steel, in the thickness of which is included a layer of unburnable material, the whole protected on the outside by four inches of a hard mixture of special anti-blowpipe concrete. Each quality of door is supplied with a double tongue and groove, fitted with Usudorian material to make the door airtight.

For branch banks Messrs. Chubb are introducing a new pattern of strong room, as the design already described is in many cases somewhat too heavy for the smaller needs of these agencies. The room itself is of the armoured concrete construction, the special feature of it being the embedding of a type of twisted steel bars.

Messrs. Chubb and Sons also specialise in steel furniture and steel equipment for banks generally, some typical examples being shown on this page.

STEEL CUPBOARDS.

Ventilating, Heating, and Lighting of Banks

By AMBROSE W. COFFIN, M.I.H.V.E.

EFFICIENCY is largely dependent upon healthy conditions: hence the attention that is paid to-day to the various engineering problems that enter into the planning of a modern bank building. Unhealthy surroundings must impair the efficiency of the worker. This very important fact was overlooked in the past when many existing buildings were designed, and the heating and ventilating expert was frequently the last person to be consulted. Modern conditions, however, demand ever increasing attention to all that appertains to the welfare and well-being of the worker.

Ventilating and warming are of paramount importance, and should always be considered together. In fact, these subjects are interdependent. Ventilation frequently presents complicated problems, particularly in congested districts where the air supply is far from being all that could be desired. A very real danger frequently arises, not from a chemically impure air, but from an overheated and humid atmosphere, due partly to the variable English climate. This is particularly noticeable in large offices. Physiologists tell us that all kinds of respiratory diseases are not due to cold, but to the efforts of trying to protect ourselves from cold. It has been stated that an even and constant temperature is inimicable to health. It is not sufficient to instal merely a series of so-called radiators, which in fact only radiate about 12 per cent. of their heat, the remaining 88 per cent. being by "convection," heating by a boiler situated in a basement, and to depend upon open doors and windows, fires, and providence for the ventilation.

A well-planned system of ventilation and heating will pay handsome dividends in the increased efficiency of the staff. The mistake that is frequently made is that too little consideration is given to important matters such as the total amount of surface, the surface temperature, hourly air changes, temperature of incoming air and its velocity.

Ventilation is of equal importance in the office as in the factory. Its object, briefly described, is to keep the air moving so that all the emanations from the lungs and clothes are removed, together with noxious smells, fog, smoke, and also to keep down the humidity of the air and so allow for the natural evaporation from the surface of the body.

Ventilating

Ventilation may be divided into two classes: natural and mechanical. The former depends upon open doors and windows, chimneys and ventilating flues, but there must always be a degree of uncertainty regarding the action of this form of ventilation. Climatic conditions may not allow of open windows, and the chimney may prove a downshaft rather than an upshaft, and the direction of the wind may affect both. Mechanical ventilation, however, is positive of action, and if properly designed and installed will prove to be successful. Mechanical ventilation may be divided into two distinct classes—one class that combines ventilation without heating, such as the Plenum and extraction systems, and the other that only deals deals with the extraction of vitiated air.

Systems Described

The Plenum system consists of a series of batteries of radiators heated generally by steam, over which air is drawn from an outside source after having been washed by means of a water spray and filtered through screens. It is then delivered through ducts or channels at a high temperature into the various rooms and again extracted through registers into ducts and discharged into the atmosphere. This system does not permit of open doors or windows, as such would break the current of air and cause draughts.

The extraction system differs somewhat slightly from the Plenum system, inasmuch as the air, instead of being forced into the room at a slight pressure, is withdrawn from the rooms through registers into ducts and extracted, the air frequently being passed over batteries and so warmed before passing into the room. Particular care should be exercised to ascertain the correct level from which the source of air supply is taken; the danger is of bringing the fresh air in at the roof level, not only partially charged with smoke from surrounding chimneys, but also with noxious germs from surrounding soilpipes, and requiring greater filtration. On the other hand, to bring the air from the ground line is also harmful, and it is therefore advisable that a mean line between these two points should be taken. This must be determined by local conditions.

It is also advisable when contemplating the Plenum or extraction system to note the temperature of the incoming air, that is, the temperature and velocity of the air that is brought into the room, and it is very much better to have a large number of inlets and so reduce the velocity. It is also advisable to warm incoming air by passing it over batteries containing hot water instead of low-pressure steam; this, of course, entails a larger initial expense, but the advantage is a reduced temperature. The system of exhaust ventilation is very suitable for kitchens, lavatories, smoke-rooms, etc.

Another system which has been installed with success, and is very suitable for the ventilation of strong rooms and basements, is the Ozonair system, an improvement upon the Plenum system, inasmuch as the air, after having been washed and warmed, is deodorised by electrical treatment, thereby imparting a fresh and invigorating tone. Complete control both as regards air volume and strength of Ozone is possible by intelligent manipulation of the electrical control gear.

Particular attention should always be given to channels through which the warm and purified air passes, as instances have been known where these channels, formed in brickwork, have become water-logged. Cases have occurred where no access has been made for cleaning purposes, and frequently air, after having been washed and dried, is passed through dusty, dirty, and sometimes water-logged channels. The position of the inlets and outlets in the various rooms is also one of some importance, and while no definite rule can be laid down on account of local conditions affecting the question, the general rule is to bring air in at high level, say 6 or 7 ft. from the floor line, and to take extractions at or near the floor line.

Another system of ventilation deals not with the treatment of air, but with the extraction of vitiated air, this being carried out by means of fans extracting air at high level and depending upon the incoming air through open doors, windows, etc.

If, however, conditions do not permit either of the aforementioned systems of combined heating and ventilation, then the question resolves into two separate problems: heating and ventilating. To consider the former, heating is divided into steam and low-pressure hot water, the former being sub-divided into low-pressure steam and vacuum system of steam, and the latter into hot water and eccelerated by hot-water systems.

Heating

The more generally adopted system for heating in our public buildings to-day is low-pressure hot water, which may either work by what is known as the gravity system, or the accelerated system. The cause of the circulation in the former is due entirely to the difference in the temperature of the water in the flow and return pipes. The accelerated hot-water system, however, is more positive in action and has certain advantages over the gravity system; particularly is this noticeable in the size of the pipes that convey the hot water; not only mains, but the branches leading to the radiators. These can be considerably reduced in size, thereby effecting a large saving in the initial cost and also an economy in construction of pipe chases and channels. An electrically driven circulator forces the water throughout the entire apparatus. Care should be exercised in selecting an accelerated system, so that in the event of the electric current failing a certain amount of circulation of water will continue throughout the system.

There are also other points to be considered when selecting a scheme of heating—for instance, a different system of pipe runs; that is to say, the two-pipe system and the overhead system. In the former the size of the flow and return pipes decreases proportionately with the amount of radiation, the flow connections to the radiators being connected to the flow main and the return connections to the return main. This ensures that each radiator in turn receives its water at the pre-determined temperature, and is not cooled by having passed through previous radiators.

The drop system consists of a flow main taken from the boiler or boilers directly to the top of the building, and from this point pipes known as drop risers are taken to the radiators. It should be remembered that, for the successful working of this system, each and every radiator on a drop main must be fixed in close proximity to that main. This system does not allow of alterations in the position of radiators.

Another very important point to be considered is the pre-determined temperature of the water at which the installation is designed to work, because, as previously stated, the higher the temperature of the water in the radiators, obviously the more rapid consumption of fuel, higher stack gas loss and lower efficiency of boiler. In no case should the temperature of the water in the flow pipe exceed 180 deg. F., and only then under exceptional conditions. The lower the mean temperature in the system the more comfortable, hygienic, and economical it must be.

Another method for ensuring a certain amount of ventilation is by providing sufficient air inlets in the external walls and by fixing radiators in front of same, with a baffle plate on the front of the radiators. This system is known as a direct indirect, but it should always be borne in mind that it is not possible to pass air into the room without some form of extraction taking place. Particular care should always be exercised to ensure that the heating surfaces are kept clean and free from dust, and as far as possible it is better to have large radiators working at a low temperature, and at the same time radiating their heat with a large superficial area, rather than radiators having the same amount of heating surface working at a higher temperature, but warming by convection.

Lighting

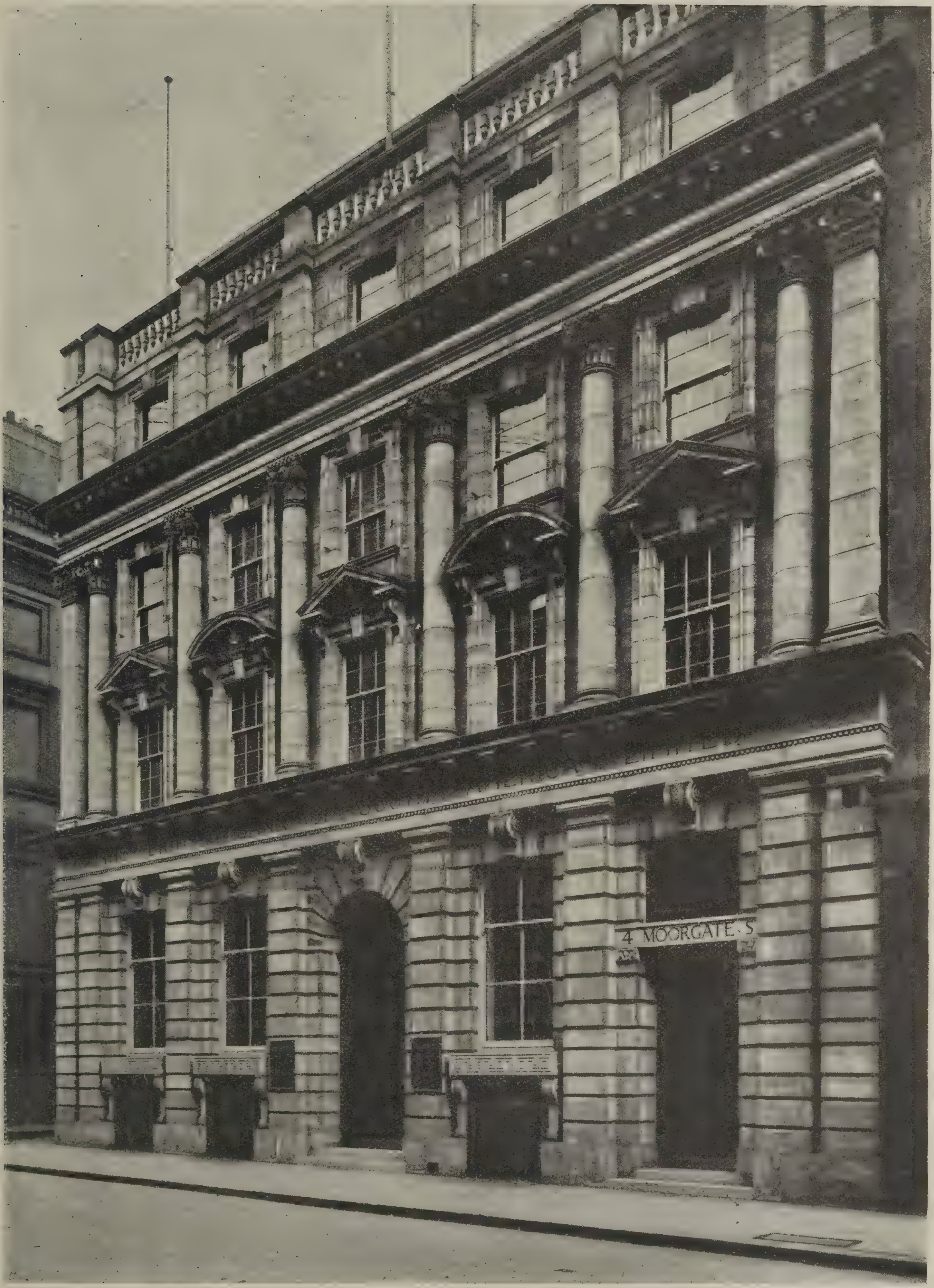
Now that high candle-power gas-filled lamps have become a commercial proposition, the question of bank lighting assumes a totally different aspect from that which it had a few years ago, when the engineer or architect had to depend solely upon comparatively small lighting units. The banking hall necessitates two distinct types or methods of illumination—general lighting and individual lighting over desks and counters. General light can very readily be obtained by the use of high candle-power gas-filled lamps which will give up to 2,000 candle power per unit. It will be readily understood that such a high candle-power coming from one particular point can only be used with success by providing that the lamp is suitably installed in a fitting which, while making use of the greater part of the candle power, diffuses the rays in a manner unobjectionable to the sight. There are several methods of obtaining this result, and the particular one to be employed depends upon the nature of the hall. Where this is very lofty, with the ceiling broken up by mouldings or other decorations, the semi-indirect method is usually employed. This method provides for the lamp to be fitted behind an opalescent material—obscured glass, alabaster, or some other transparent substance which can be mounted in an ornamental design. Where, however, the banking hall, while being of a minimum of, say, 15 ft. high, is provided with a white ceiling of a more or less unbroken surface, the indirect method is very effective and provides an illumination approximating to that of daylight. The fitting in this instance should consist of an opaque reflector, with a matt-white surface on the reflecting side, the ray from the lamp being reflected to the ceiling and providing an even illumination if the fittings are correctly placed.

The problem of the individual lighting of desks and counters is rather more difficult of solution, for while the cash counters require lighting on both sides of the grille, the ledger and other desks only require lighting on one side. Sometimes, general illumination has been found to be sufficient, but on the cash desks it is generally preferred to have separate lights for the cashier or lights under individual control. For this purpose a system has been in constant use for some years, namely, lighting from brackets worked in with the design of the grille—a method which has proved quite efficient. While in some banks these lights are of uniform height, it has been found necessary in others to have them fitted with counter weights, or extended arms, to suit the convenience of the individual, for lighting which would suit one person would be of no use to another, owing to different sight, height, and other physical differences. With adjustable lights this difficulty is overcome, and it is now the general practice in large banks to fit this type of attachment.

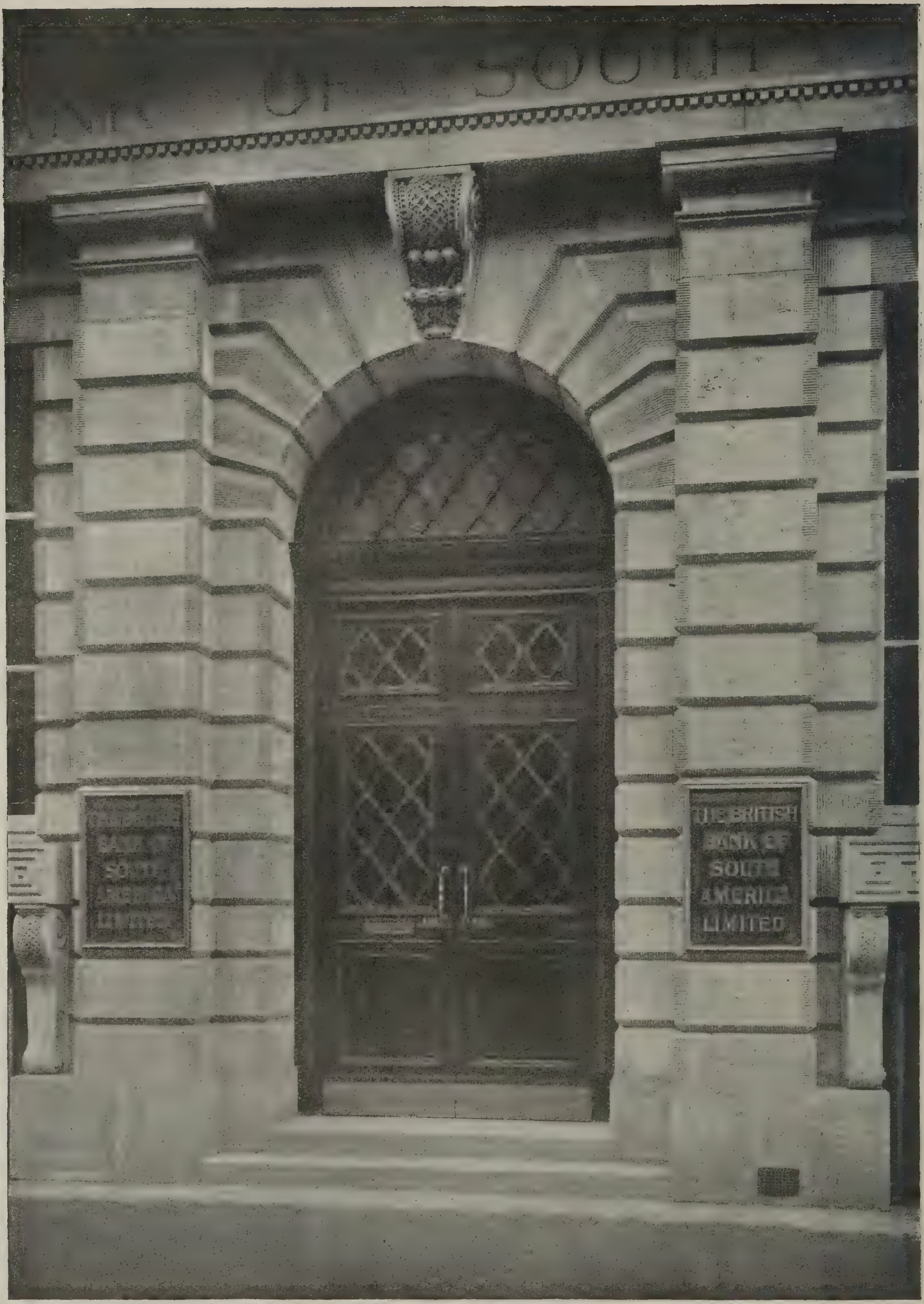
South Wales Institute of Architects

The Western branch of the South Wales Institute of Architects have elected the following officers for the ensuing year: Chairman, Mr. Glendinning Moxham, F.R.I.B.A.; hon. treasurer and librarian, Mr. H. C. Portsmouth, F.S.Arc.; honorary secretary, Mr. J. Herbert Jones, F.S.Arc.; committee, Messrs. J. Cook Rees, F.S.Arc.; C. S. Thomas, F.S.Arc.; H. A. Ellis, F.S.Arc.; and Thomas Gibb, M.S.A.; Associates' representative, Mr. G. L. Crocker; honorary auditor, Mr. Hubert Rogers. Messrs. Glendinning Moxham, F.R.I.B.A., J. Herbert Jones, F.S.Arc., J. Cook Rees, F.S.Arc., and Thomas Gibb, M.S.A., were elected to represent the branch on the Council of the South Wales Institute of Architects; and Mr. G. L. Crocker was elected to represent the architects' assistants and pupils.

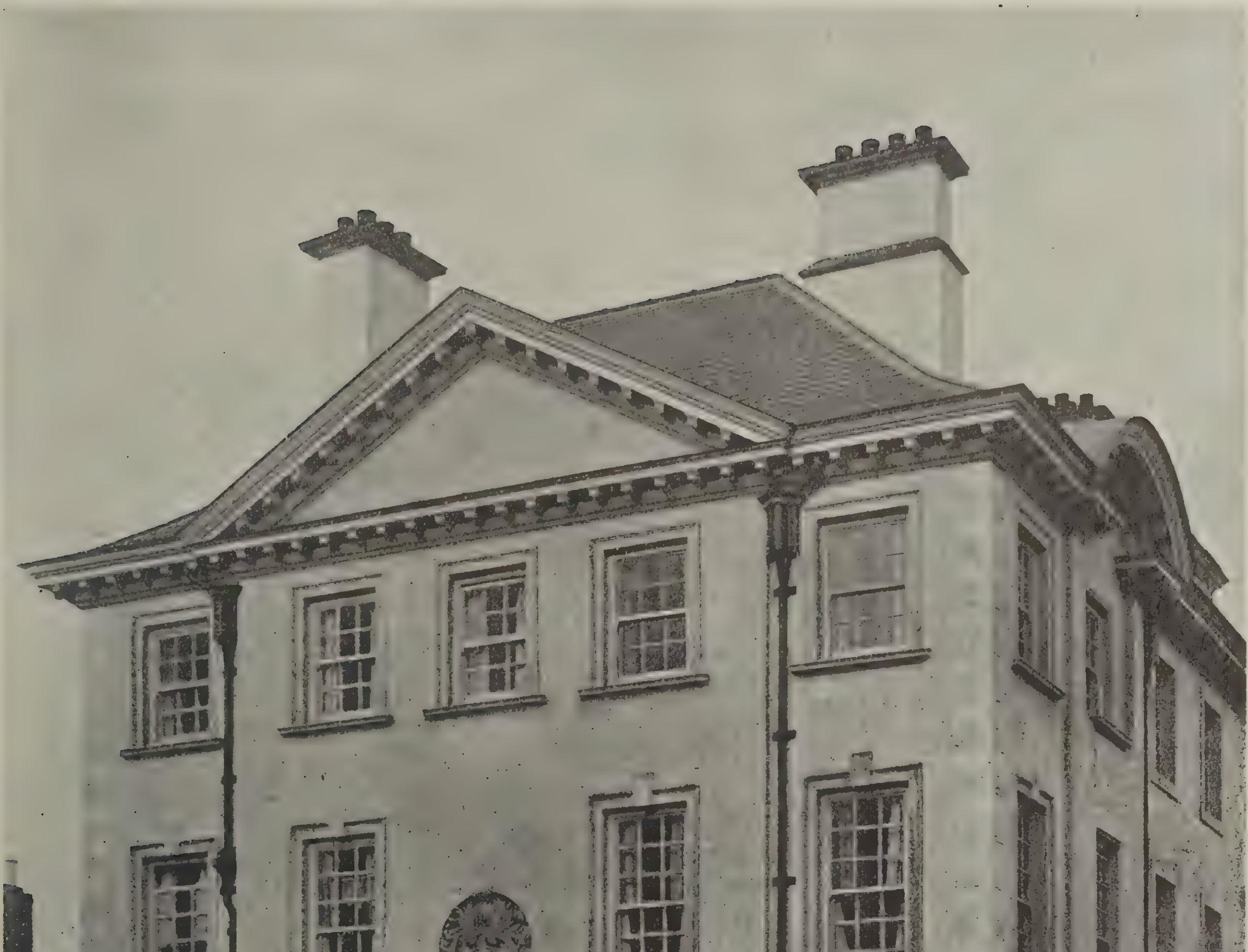
BRITISH BANK OF SOUTH AMERICA, MOORGATE STREET, LONDON.
DUNN AND WATSON, FF.R.I.B.A., ARCHITECTS.



BRITISH BANK OF SOUTH AMERICA, MOORGATE STREET, LONDON.
DUNN AND WATSON, FF.R.I.B.A., ARCHITECTS.


BANK OF SOUTH
THE BRITISH BANK OF SOUTH AMERICA LIMITED
THE BRITISH BANK OF SOUTH AMERICA LIMITED

BRITISH BANK OF SOUTH AMERICA, MOORGATE STREET, LONDON: DETAIL OF MAIN ENTRANCE.
DUNN AND WATSON, FF.R.I.B.A., ARCHITECTS.



LLOYDS BANK, OKEHAMPTON. HORACE FIELD, F.R.I.B.A., ARCHITECT.

Notes on Banks Illustrated

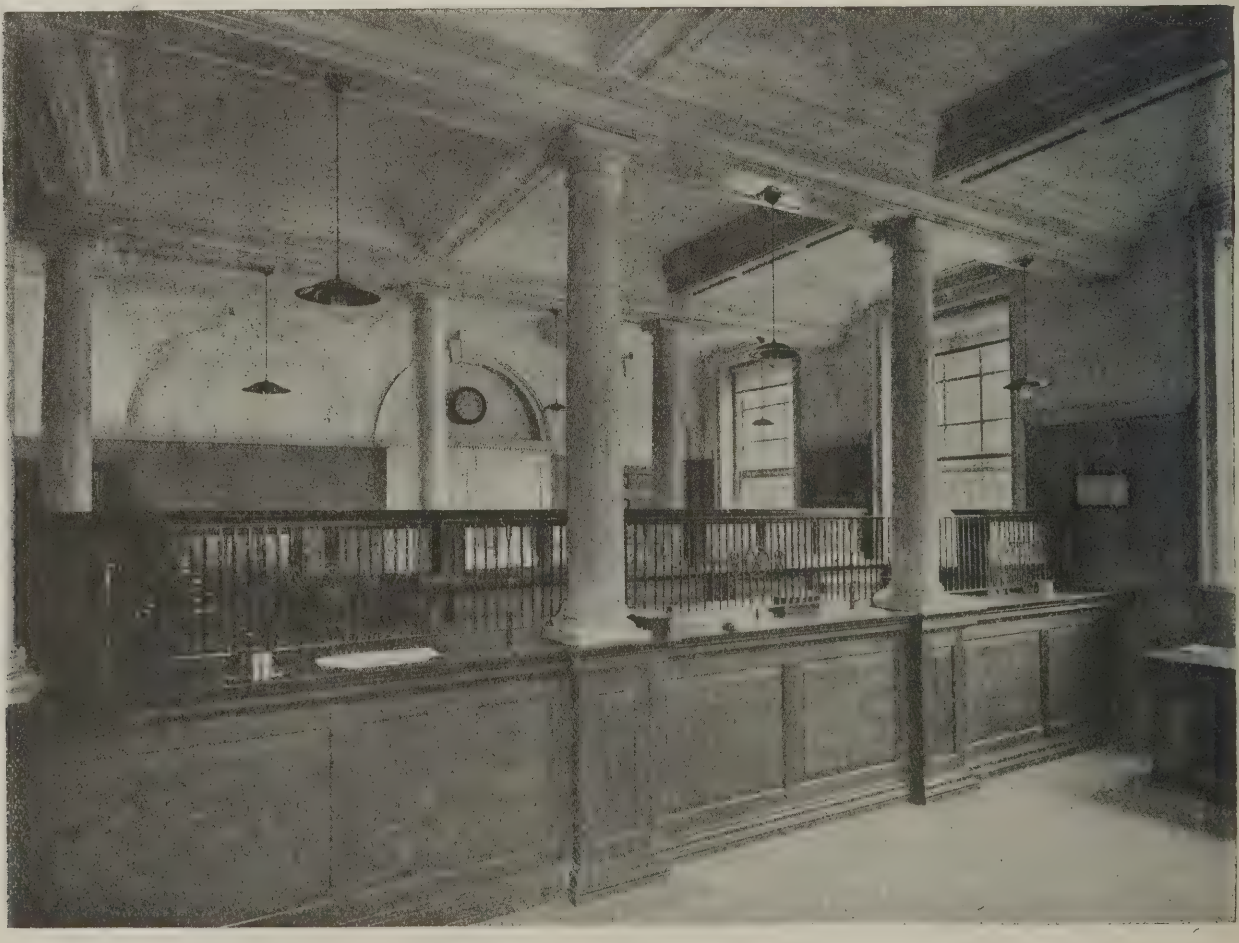
Lloyds Bank, Leicester Square, W.

This branch office occupies the ground floor storey of an old building at the corner of Coventry Street and Wardour Street, Leicester Square. At attempt has been made to obtain a strong, dignified front, but the design has been hampered by having to conform to some extent to the lines of the building over; a particularly awkward corbel at the corner conditioned the projection of the corner doorway. Externally the bank is of Portland stone, having black steel windows with a gold band, a treatment occasionally seen in Paris and thought suitable to this neighbourhood. The doors are of hardwood, ebonised and lined with gold. Internally the walls are of French stuc, with black marble skirting. The public space is paved with large squares of Hopton wood, with a black marble border. The fittings and furniture are of mahogany, specially designed by the architect. The lighting of the banking hall is semi-indirect, the fittings being of bronze, with "moonstone" glass bowls. Mr. Edward Maufe, M.A., F.R.I.B.A., was the architect.

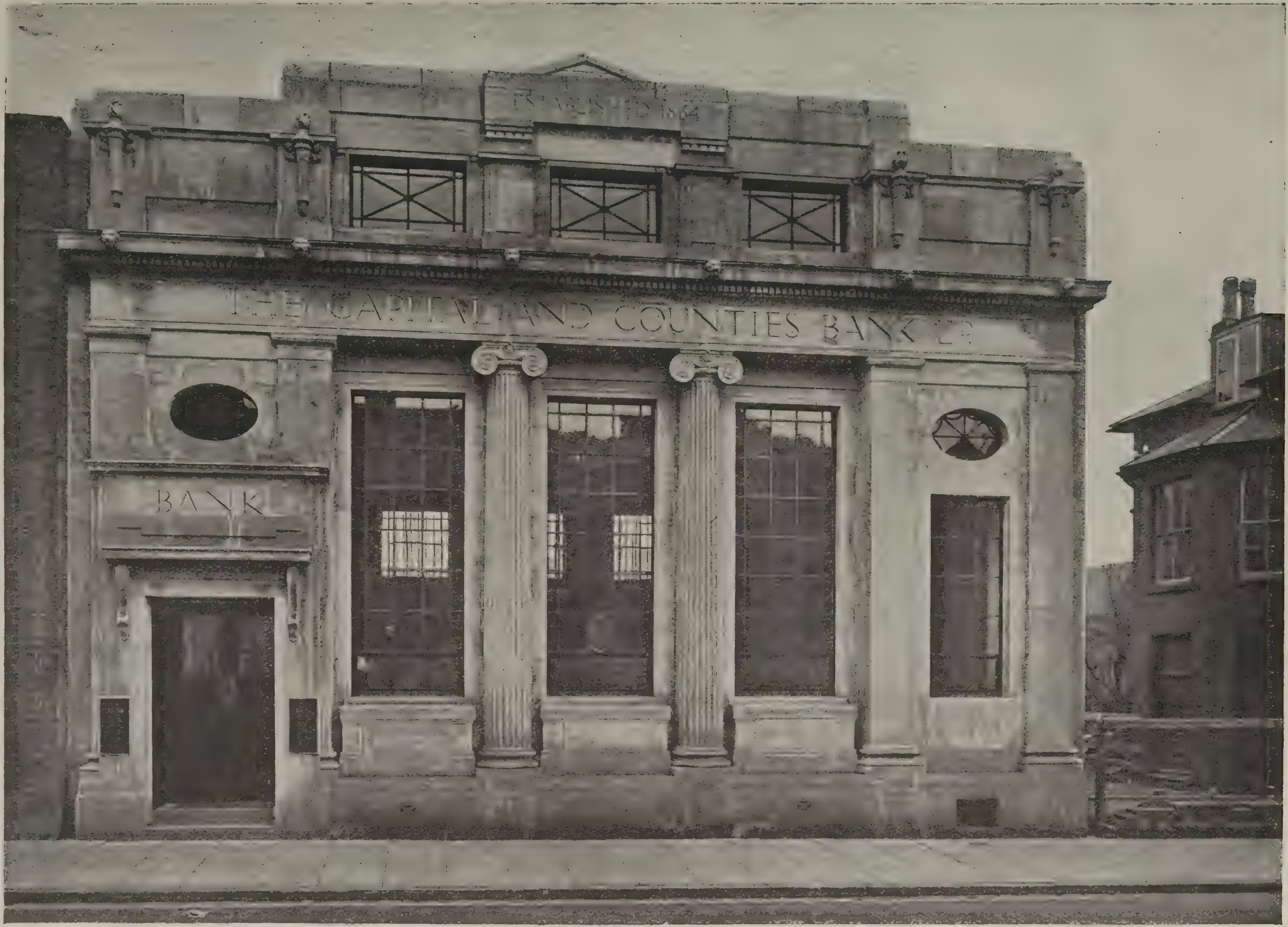
Messrs. Trollope and Colls were the general contractors, who also carried out some of the fittings. The following were sub-contractors: Messrs. Aumonier and Son (stone carving and fibrous plaster); Messrs. Albany Forge and Wainwright and Waring (steel windows and shop front); Messrs. Henry Hope and Son (heating); Messrs. Locke and Soares (electric lighting); Messrs. Medway Safety Lift Company (lifts); the Aston Construction Company (steelwork); Messrs. Charles Smith and Son (ironmongery); Messrs. Dent and Hellyer (sanitary fittings); the Art Pavements Company (pavings); Messrs. Stevens and Adams (woodblock flooring); the Chatwood Safe Company and the Ratner Safe Company (strong-room fittings).

Munster and Leinster Bank, Cork

This building was originally the subject of a competition limited by invitation to eight architects of Dublin and Cork; Mr. G. C. Ashlin, R.H.A., being the assessor. One of the most important conditions of the competition was that the plan should be so arranged that the business of the bank could be continued without interruption during the progress of the building operations. This condition dominated the plan, making it necessary to place the new banking hall eccentrically with regard to the front, in order that it might be built and completed while the principal part of the old bank, occupying the south-east corner of the site, remained undisturbed. When the new banking hall was finished, the rebuilding on the eastern side of the site was then proceeded with, but leaving certain old walls which could not be taken down without further disturbance to the bank's business, and the old strong-room, which was in such good condition that the great expense of altering and removing it elsewhere was unjustifiable. The public banking hall has naturally been made the principal apartment of the building, and the eight marble columns which assist in carrying the dome over it form its principal architectural embellishment. Six of these columns are old, and their history is interesting. Consisting of Breccia shafts, with alabaster caps and Ipplepen (Devonshire) pedestals, they were originally designed by the late F. C. Penrose to carry an organ loft in St. Paul's Cathedral. The organ, however, was never placed upon them, and they stood in the south transept for many years. Finally they were sold by the Dean and Chapter to Messrs. Farmer and Brindley, from whom the architeots of the bank (Messrs. Arthur and Henry H. Hill, of Cork) learned of their existence, and that, by a strange coincidence, they were exactly of the dimensions required. As eight columns were needed, Messrs. Farmer and Brindley succeeded in reopening the quarry in Italy from which the shafts originally came, and two more stones were obtained. These were got only with difficulty, the reason for giving up the quarry thirty years before having been that it was considered to be worked out. The firms engaged on the work were: John Sisk and Son, Cork (general contractors, portion of fire-resisting floors, and bank fittings); Homan and Rodgers, Manchester (portion of fire-resisting floors and asphalt roofs); Chatwood Safe Co., Ltd., Bolton (strong rooms, etc); British Challenge Glazing



LLOYDS BANK, OKEHAMPTON. HORACE FIELD, F.R.I.B.A., ARCHITECT.



CAPITAL AND COUNTIES BANK, ST. ALBANS. EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.

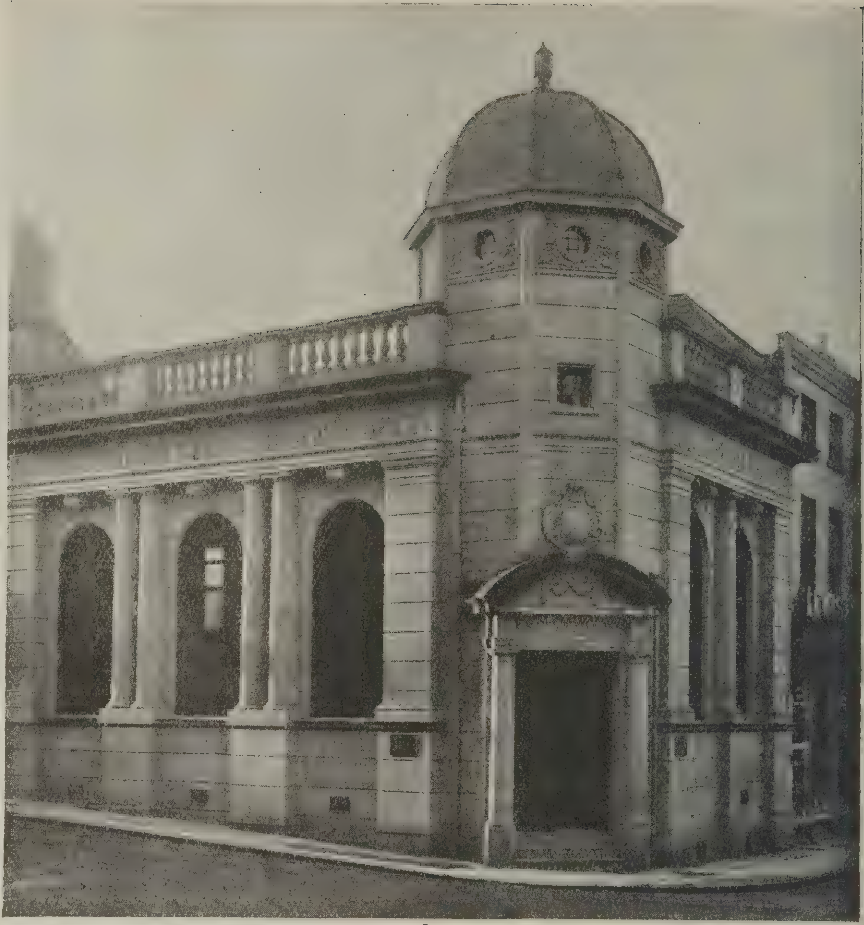
Co., Ltd., London (dome and roof glazing); Musgrave and Co., Ltd., Belfast (heating and ventilation); Waygood-Otis, Ltd., London (push-button lifts); Farmer and Brindley, London, and J. A. O'Connell, Cork (marble work); Marble Mosaic Co., Bristol (terrazzo floors). J. W. Singer and Sons, Frome (counter grilles and electric fittings); James Gibbons, Wolverhampton (locks and furniture); John Buckley and Sons, Cork, and Musgrave and Co., Ltd., Belfast (ornamental ironwork); John O'Connell, Cork (decorations).

London Joint City and Midland Branch Banks

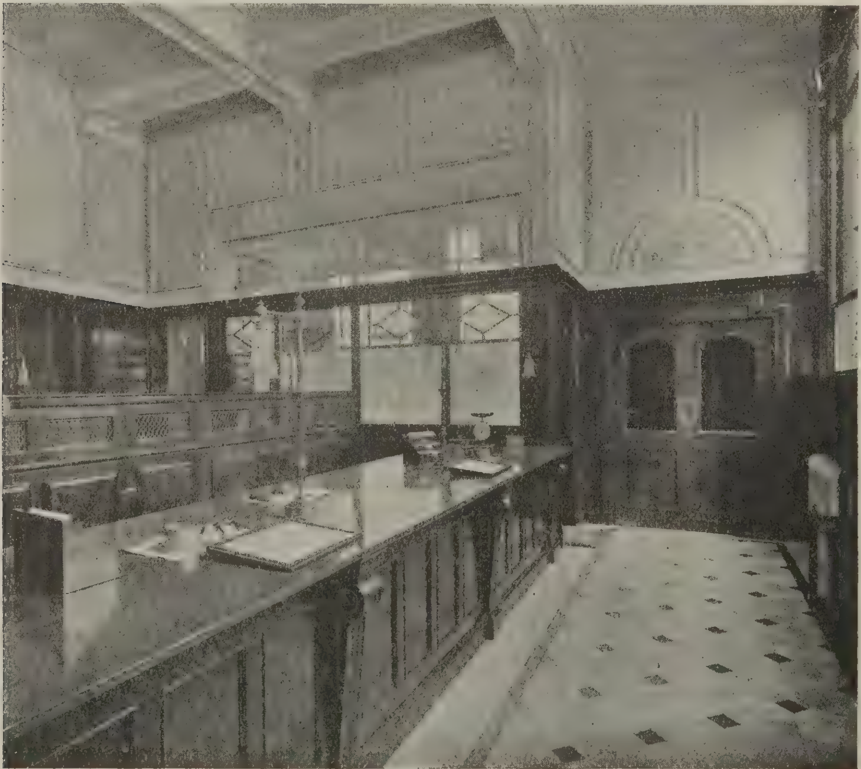
Among the new banks recently erected for the London Joint City and Midland Bank, Ltd., are those we illustrate from Tamworth and Stroud, of which Messrs. Gotch and Saunders, of Kettering, are the architects. The policy of the bank is to have its new buildings at once recognisable as those of the London Joint City and Midland Bank, which means that a strong family likeness has to be introduced into them all. The diversity in the sites and their differing dimensions provide the means of varying the treatment enough to prevent monotony. Another point is that the banks are to be first and foremost banks, not blocks of offices, with a bank below them, and this leads to the adoption wherever possible of one-storey buildings.

These conditions call for a simple treatment, with large windows. The requisite light and shade have been obtained by recessing the windows, and separating them by attached double columns, carrying an entablature on the frieze, on which the name of the bank is displayed in large letters. The entrance doorway and the adjuncts containing the lavatories afford the opportunity to introduce enough small detail to increase the interest in the design.

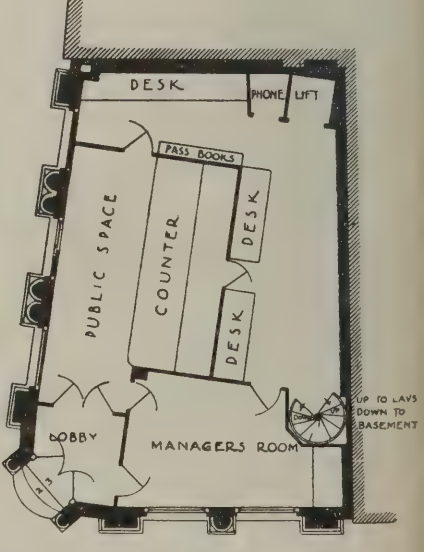
The fitting of the interior is arranged on definite units of length for each cashier and clerk. The manager has to himself a room, so planned that a departing customer does not meet one who is seeking an interview. All the screens are made as light and as full of glass as possible, in order to give a spacious and open effect, subject to the necessary privacy. Plenty of space is provided for the staff behind the enclosed counter, and every part is well lighted. One advantage of a single storey building is that on confined sites lighting can easily be introduced in the roof. As the staff almost invariably consists of both men and women the lavatory accommodation has to be ample and suitably planned. Another sign of the times is that the staff now requests that provision should be



LONDON JOINT CITY AND MIDLAND BANK, STROUD.
GOTCH AND SAUNDERS, ARCHITECTS.



LONDON JOINT CITY AND MIDLAND BANK, STROUD.



PLAN.

made for supplying tea. The bank at Stroud occupies a corner site, and has its front entrance at the angle. The site at Tamworth had a frontage with an awkward bend in it, and this difficulty was surmounted by curving the front, thus incidentally widening the narrow pavement where it was most needed. At Tamworth there is a special subsidiary entrance for the staff, but at Stroud the site was not large enough to allow of a second entrance. It has been submitted that a secondary entrance is likely to help the burglar, but in regard to this Messrs. Gotch and Saunders remark "that no precautions which are possible on the ground floor will keep out a determined burglar, and the true policy is, while affording him no undue facilities for entry, to rely on suitable strong rooms and safes for protection. Where these are provided the burglar may roam at will over the rest of the premises"—should he succeed in forcing an entry.

The contractors for the banks at Stroud were Messrs. Nicholson and Son, of Leeds. and for that at Tamworth Messrs. Bowen and Sons, of Birmingham. The internal fittings at Stroud were provided by Messrs. Nicholson and Son, and those at Tamworth by Mr. J. Parkinson, of Liverpool.

Union of London and Smiths Bank, Regent Street

This building was erected by Messrs. Dickins and Jones from the designs of Messrs. Stephens and Munt, architects. The general elevation of the whole block was designed by Mr. Henry Tanner, F.R.I.B.A. The ground-floor and basement only are occupied by the bank, for whom the interior arrangements were designed by Messrs. Dunn, Watson, and Curtis Green, FF.R.I.B.A. The general contractor was Sir James Carmichael, of Wandsworth, under whom work was executed by the following sub-contractors: Heating and ventilating, Messrs. Richard Crittall and Co.; bank fittings, Messrs. F. Sage and Co.; electric wiring, Mr. F. Geere Howard; marble paving, Messrs. Burke and Co.; revolving shutters, Messrs. Dennison and Kett; bronze sashes, Messrs. Crittall Manufacturing Co.

The Capital and Counties Bank (now Lloyds Bank), Tidworth

This branch office was put up in the first year of the war to deal with the large increase of military business on Salisbury Plain. It is an admirable example of a small country branch bank, simple and dignified in architectural treatment. The walls are of cavity brick, finished in white Sadusky cement. Plum-coloured tiles from Bishops Waltham are used for the roof. The screens and fittings are of mahogany with "egg-shell" black iron grilles to the counters (see detail drawing reproduced on double-page plate). The arms of the bank carved in wood and painted, are in the pediment of the doorway. Mr. Edward Maufe, M.A., F.R.I.B.A., was the architect. The general contractors were Messrs. Mussellwhite and Son, of Basingstoke, who also carried out some of the fittings. The following were sub-contractors: Messrs. Steer and Co. (grilles); Messr. Pridmore and Son, Coventry (electric light fittings); Messrs. N. F. Ramsay and Co. (ironmongery); Messrs. J. P. White and Co., Bedford (wood carving); the Ratner Safe Company (strong-room fittings).

Capital and Counties Bank, St. Albans

In designing this bank, regard was had to the fact that it would stand beside St. Albans Town Hall, a dignified building in the Greek manner erected from the designs of George Smith about 1830. Mr. Maufe's building, the frontage of which is in Portland stone, comprises a banking hall 38 ft. 3 in. by 27 ft. by 17 ft. high, an armoured concrete strong room 22 ft. by 13 ft., managers' room, waiting-room, store-room, and lavatories. Messrs. Miskin and Son, St. Albans, were the contractors, the mahogany fittings being by Messrs. Elliott and Son, Reading, and the carving by Messrs. Aumonier and Son, London, all the details having been designed, and the work superintended, by the architect.

Other sub-contractors were as follows: Messrs. Wainwright and Waring (steel windows); Messrs. N. F. Ramsay and Co. (ironmongery); Messrs. Miskin and Rice (electric lighting); Messrs. Lindsay's Paddington Iron Company (steelwork); Messrs. Burke and Co. (marble pavings); Messrs. Bratt, Colbran, and Co. (dog grates and interiors); Messrs. Pontifex and Son (sanitary fittings); the Ratner Safe Company (strong-room fittings).

Lloyds Bank, Okehampton

Mr. Horace Field, F.R.I.B.A., has designed many delightful buildings in the "Georgian" tradition, but probably none more attractive than this branch of

ALL-STEEL EQUIPMENT OF A BANK INTERIOR, AMSTERDAM.

Messrs. Lloyds Bank, at Okehampton, wherein simplicity of form is appropriately set off by delicacy of detail. A feature of the front elevation is a carved shield, painted and gilded to give an heraldic effect. Internally the building is equally simple, both architecturally and in its practical arrangements. The general contractors were Messrs. Blatchford and Co., of Okehampton, the carved shield mentioned above being the work of Messrs. W. Aumonier and Son, of London.

British Bank of South America

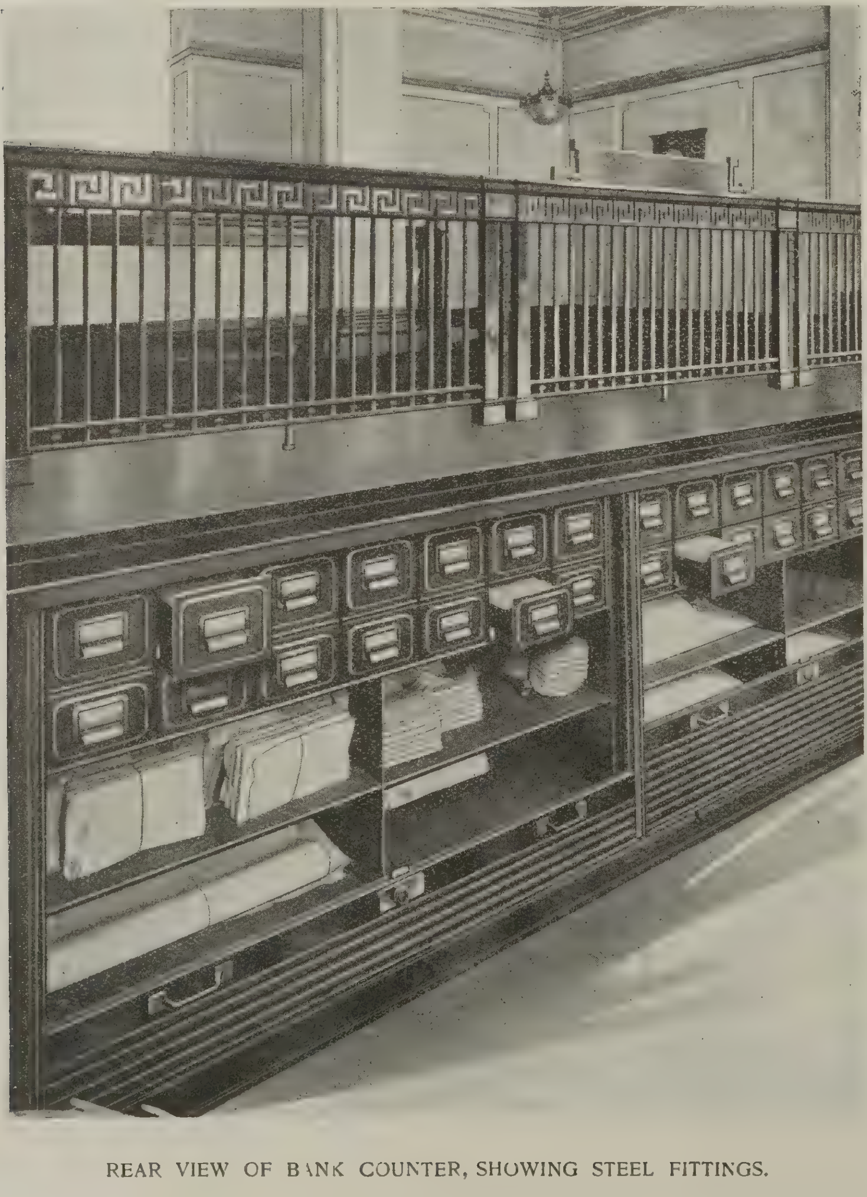
The British Bank of South America, in Moorgate Street, occupies only the ground floor, basement, and sub-basement of the building illustrated, the upper floors being let as offices. The ground floor and basement walls are faced with marble, except in the private rooms, where mahogany panelling has been employed. Fire-resisting construction is used for the floors, etc. The façade is of Portland stone. Messrs. Dunn and Watson, FF.R.I.B.A., were the architects. The general contractors were Messrs. Trollope and Colls, Ltd., who also executed the bank fittings and panelling. The following were sub-contractors: Messrs. Burke and Co. (marble floors and wall linings); Messrs. J. Jeffreys and Co. (heating and ventilation); Mr. F. Geere Howard (electric lighting); Messrs. Waygood-Otis, Ltd. (lifts); Messrs. C. Isler and Co. (artesian well). For illustrations see pages 266-268.

Details of Bank Equipment

EFFICIENCY in bank management depends to a large extent on the situation and planning of the building, and on a well-organised use being made of space and labour-saving equipment. In addition to the protection of valuables, banking entails a great deal of routine work, which can only be carried out in an expeditious and methodical manner by the adoption of modern methods of communication between the various departments, and the installation of the latest appliances for handling and storing the bullion, and the books and documents of every-day use.

Steel Counters and Trolleys

By the use of steel counters, fitted with sliding doors or push-down steel curtains, books, papers, etc., may be safely left in the counters and desks at night, without fear of their being destroyed by fire, and the time lost, both at night and morning, in transferring books to strong rooms, is avoided. The use of steel equipment also creates a favourable impression upon the customers, and convinces them that the bank is taking every possible measure to safeguard its papers, valuable documents, etc., which cannot be conveniently transferred to the strong room every night. Various equipments, some examples of which are given herewith, installed by the Art Metal Construction Company, Ltd., in London banks over ten years ago, are claimed to be in as good a condition to-day as when they were placed in position. This firm also manufacture trolleys for transporting cash, books, and valuable papers to and from the safes. These trolleys, which are built of steel plates and furnished with any combination of fitments, are mounted on carefully-balanced wheels, so that they may be easily moved, notwithstanding the heavy load.



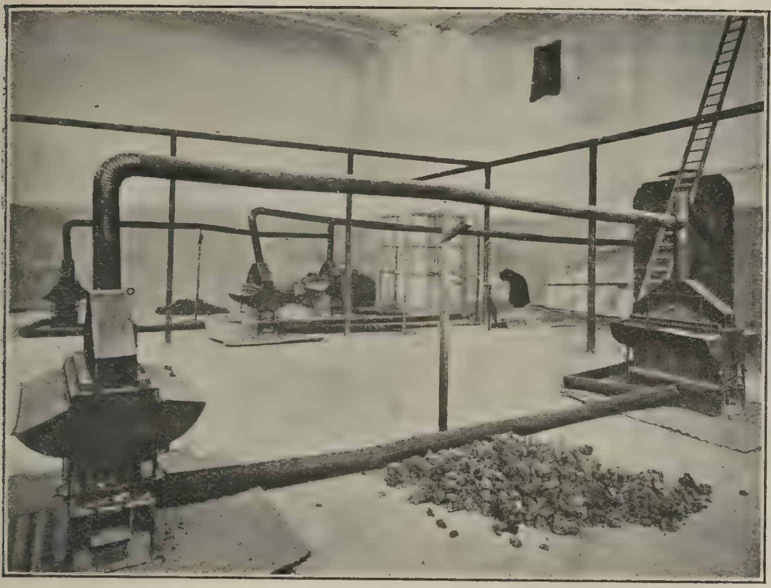
REAR VIEW OF BANK COUNTER, SHOWING STEEL FITTINGS.

Lifts

The modern office bank building cannot be considered complete without proper lifts. Apart from the ordinary passenger lifts which may be necessary, there is the question of handling bullion and the various books of the bank, which must be securely placed in the strong room overnight. The method adopted for handling this material is by means of trolleys and electrically, hydraulic, or hand-operated hoists. Electric bullion hoists with push-button control give the simplest solution of the problem. The hand operated hoist, however, is often installed where difficulties with regard to electric supply are encountered.

Illustrated on page 276 is a type of hoist supplied by Messrs. Medway's Safety Lift Co., Ltd., which has been specially designed for bank use, it being very easy to operate, compact, and safe. The hauling is done by the hand wheel shown, and the hoist, which is driven through suitable gearing, is fitted with a counter weight, the platform serving flush with the ground floor. The hoist shown was installed at Messrs. Lloyd's Bank, Ltd., Coventry Street.

Various types of hand, winding, hydraulic, and electric lifts have been supplied to a large number of banks by the Waygood Otis Co., Ltd. The hand-power type illustrated (page 275) is worked by a crab gear, fixed on the floor, with spur wheel and pinion, strong brake, large fly-wheel to assist easy working, and wrought-iron handles. For the heavier lifts, the crab is made with single and double purchase gear, and with sliding pinion for throwing out of gear, so that the handles do not fly round when lowering. Full automatic control is an important development of the electric system, in which the lift, whether for passengers or bullion, when started, will stop automatically on arriving at the floor it is required to reach. In this case a single push is fitted on each landing to call the lift, which acts equally in either direction. A series of pushes is fitted in the cage, corresponding to the floors the lift serves,



DRYING APPARATUS FOR BANK INTERIORS.

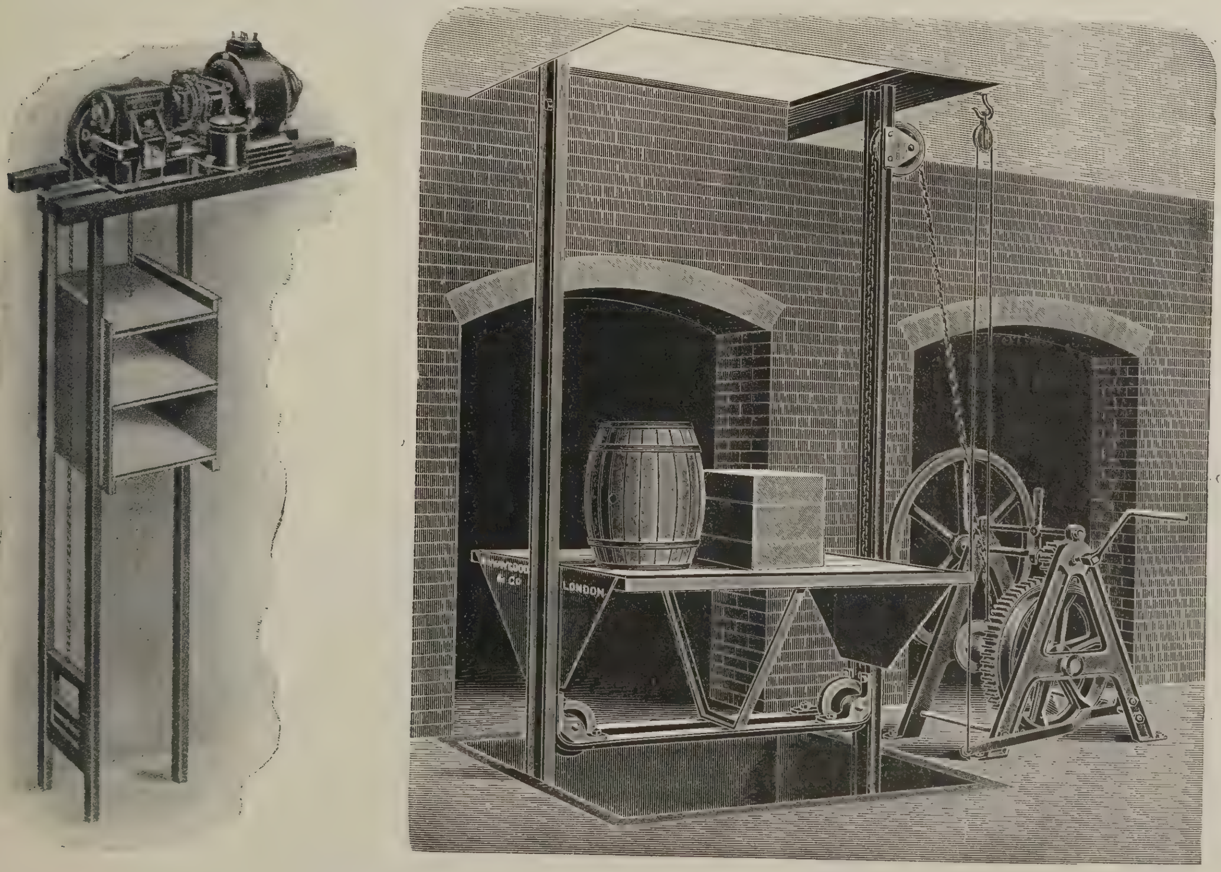
and when either of these is pressed the lift starts and travels to the floor indicated and stops automatically on arrival. An additional emergency push is provided, by which the cage can be stopped at any point in case of necessity. Special attention has been paid by this firm to the evolution of patent interlocking apparatus for the doors or gates on landings, and they have produced a combined electrical and mechanical lock. Where double sliding doors are used the company have designed a simple and effective sympathetic apparatus for operating both halves of the door simultaneously. In the lifts made by this company the platform may also be made to form the floor during the daytime if necessary.

Departmental Communication

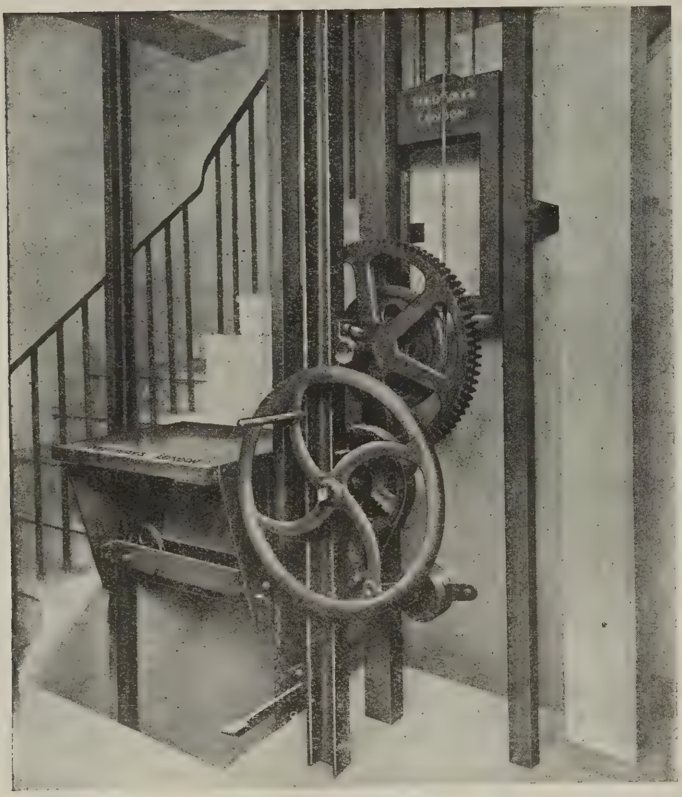
Communication between the various departments can be rendered simple by the installation of the Dictograph Telephone, which has been adapted by a large number of leading banks. In use all that is necessary is to knock up one of its little keys and speak. Instantly comes the reply from the department called. There is neither transmitter nor receiver to hold, both the hands being free. If someone else is present the answers can be confined to oneself. Two men can be spoken to at the same time; they can confer together, so that if an inquiry comes through the outside 'phone it can be settled at once with the department concerned. Time can also be saved in dealing with correspondence, the typist simply putting on a headband and taking dictation through the Dictograph telephone, either by shorthand notes or direct while using the typewriter. The banks where this apparatus is in service include Lloyds National and Provincial Bank, London; London County, Westminster and Parr's Bank, London; Lloyds Bank, Ltd., London; Manchester and Liverpool District Banking Co., Ltd., Manchester; Bank of British West Africa, Liverpool; National Bank of South Africa, London; National Bank of India, London; The Commercial Banking Co. of Sydney, Ltd., London; Banque du Congo Belge, London; Anglo-South American Bank Co., London; P. and O. Banking Corporation, Ltd., London. It is also in operation in London in the new Glaxo building in Osnaburgh Street, the British, Foreign, and Colonial Corporation's new premises in Gresham Street, half the offices in Imperial House, Kingsway, four other buildings in the same thoroughfare, the Lambeth and Lewisham Infirmaries, St. Dunstan's Hostel, and the Metropolitan Railways.

Electric Light Fittings

For many years past the Edison Swan Electric Co., Ltd., have manufactured all kinds of fixtures from the simplest form to the more elaborate "Period" styles, and many important installations have been carried out. In most cases the services of the Ediswan artists have been freely used in the preparation of special designs. A recent example of fixtures



ELECTRIC AND HAND-POWER HOISTS FOR BANKS.



HAND-POWER BULLION HOIST.

supplied under architects' supervision will be found in the offices of the Commercial Bank of London, Ltd., in Gracechurch Street, London. Twenty-five fixtures of the same design as illustrated on this page were supplied to the following specification: Cast bronze, finished semi-indirect fitting, hexagonal in shape, with satin finished bent glass panelled bowl, and satin-finished oblong glass panels behind the Greek key ornamentation around the top of the bowl, suspended by six-way oblong link chains from a cast ceiling plate. Most big manufacturers have a variety of choice fixtures always on show at their London and provincial depots.

Artificial Drying, etc.

The artificial means employed for drying out buildings in general have a special application to banks, strong rooms, safe deposits, etc., where valuable and perishable goods are stored for any length of time. By the method illustrated (page 275) the air is taken as nature provides it, and its temperature raised to about 95 deg. Fahr., when it becomes capable of holding much water. This air immediately absorbs moisture from all available surfaces in the endeavour to obtain equilibrium, and the apparatus next expels it, and continues this introduction and expulsion until sufficient drying is attained. By this method the heated air is continuously imparting its heat to the surfaces surrounding it, and, as they become warm, they attract the internal damp, which is promptly absorbed as it reaches them. Under this process natural conditions (but at a higher range of temperature) are maintained, and consequently the materials used in building construction do not suffer damage.

A large number of banks have been roofed with Vulcanite roofing, which is regularly specified by certain of the big banking corporations.

Vacuum Cleaners and Pneumatic Tubes

Among other details of equipment calling for particular mention is the vacuum cleaning plant which, as it entails a certain amount of pipe work, is usually carried out by the contractors for the heating and hot-water supply works. Vacuum cleaning, or, to be more accurate, suction cleaning, depends not upon the vacuum itself, but on the volume and high velocity of the air rushing in at the cleaning tool, carrying with it the dust over which it passes. The general lay-out of a suction plant is as follows: In the basement is fitted a turbo exhauster, electrically driven and controlled (alternatively a portable cleaner may be used, but this entails additional power mains), and from this machine wrought-iron pipes are taken sometimes in the walls, upon their surface, or up the lift shaft to each floor, where portable cleaners with rubber hose are connected. The length of hose should be as short as possible. Particular care should be taken to see that the piping throughout the building is large enough to prevent choking, and a plant selected with a small running cost and with very few parts, such as valves and pistons, to get out of order. It is better to have additional rising mains than to depend upon a long length of hose pipe. The power for pneumatic tubes may also be obtained from the same generating plant as the vacuum cleaner, these tubes saving much effort in the conveyance of correspondence, etc., from floor to floor.

SEMI-INDIRECT LIGHTING FITTING FOR BANKING HALLS.

Correspondence

Architectural Students' Competitions

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Keen takes me to task for not bringing my views before the Institute instead of the public press, but as my criticism largely extended to bodies over whom the Institute exercises no control such a course would have been of little value. The Institute, although its committees do their work exceedingly well, is not, however, blameless, and I would remind Mr. Keen that neither the Council of that body nor the members of the Board of Education generally had any say in the appointment of this last year's prize committees. My entire argument rests on the fact that the constitution of the jury or committee *is the essential element* of successful adjudication; given the proper jury, minor defects will disappear of themselves. Some committee or jury is no doubt appointed to draw up the conditions and programmes, and logically the same committee should make the award. Where, therefore, arises the difficulty of publishing the names of the jury with the programmes? In attacking a system one does not necessarily attack individuals, and for my part I have always found the older members of the profession exceedingly kind-hearted and generous, not least so Mr. Keen.

The present-day student, however, is quite ready to take his gruelling standing up, and much prefers a frank and critical statement of the defects of his work to a uniform measure of well-meant encouragement, and expects in return carefully studied programmes, rigorous conditions, and critical logical awards.

ROBERT ATKINSON,
Director of Education A.A. Schools.

The Assistant and Others

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The activities of the Architects' and Surveyors' Assistants' Professional Union are having at least one good result in causing quite a flutter in the various professional dovecotes and in drawing attention to matters affecting the public as well as the profession.

The correspondence in the "Edinburgh Evening News," referred to by one writer, supports my contention that the public have not the least idea of how to become an architect. They are not to blame, because, except where the way has been pointed out to them in individual cases, they are left to find out in the costly school of experience.

This is a state of things which the Society of Architects hopes in due course to remedy by affording the public some guide in this matter. In the meantime it is my personal policy strongly to discourage the indiscriminate entry of all and sundry into the architectural profession, and to point out to enquirers that it is unfair to the individual as well as the profession for anyone to be admitted who is not fitted by education, temperament, qualifications, and circumstances to take up a career of this kind.

In regard to professional educational methods, there are exceptions to every rule, and, with all respect to any who may differ from me, I consider that the pupilage system should be superseded by, or at any rate combined with, training at a recognised school of architecture, and that in any case the potential architect should not be bound for a term of years, but should, as it were, take a trial trip not exceeding twelve months in order to ascertain whether or not he is likely to become fitted to discharge the duties of an architect, or whether he would not be better employed in some other calling which would afford him more scope for his abilities. In the latter case he would avoid a waste of the time, money, and energy which he would otherwise have to expend in completing an uncongenial contract, or forfeit the premium, and would in the meantime have obtained an insight into a profession which would always be of some service to him in whatever other calling he adopted.

In regard to prospects, which, being interpreted by most people, mean salaries, I suggest that potential architects should be taught to regard the profession of architecture as a healthy rather than as a remunerative one, as I understand that it can be demonstrated that architects exist longer, and in a greater state of comparative poverty, than the members of any other profession.

As assistants they find that their chiefs have their own ideas on the wages question, and regard any attempt to establish a minimum as indicating a maximum, and when the assistants cross the line and become principals they find their own scale in like manner regarded by their employers, the public, as the maximum, and consider themselves lucky if they get that, and by the time they have paid the trade union rate of wages for assistants and their other expenses and overhead charges, the margin between that and their own minimum wage, if they get it, is so small that they are probably earning less than their chief assistants.

One correspondent states that in his district an architect who is earning £1,000 a year is looked upon as a leader in the profession. This may account for the increase in the "band of hope" locally which he so deplores, but if this idea really prevails it is calculated, in my opinion, to give the public an entirely erroneous idea as to qualifications necessarily required for leadership in architecture.

In regard to a point raised by a correspondent with reference to some examinations, may I be permitted to point out that the Society's examinations, which are advertised in your columns, are held under conditions approximating to private practice, which not only renders distance no object and reduces the candidate's expenses to a minimum, but also enables him to display his qualifications to the best advantage, which in my view is an important point, and which is certainly not usually possible in a theoretical test conducted in an examination room within a limited time and under high pressure. The Society's methods may be more progressive than some people like, but it will appeal to candidates when they grasp its possibilities.

The subjects which I have traversed very briefly contain, I believe, some points of the greatest importance, not only to the persons concerned, but to the future of the profession, and I hope they will be pursued and developed by others more capable than myself of putting them into a shape which will commend itself to all concerned. They all connote the need for unity of action in the direction of statutory education and registration.

C. MCARTHUR BUTLER,
Secretary, Society of Architects.

St. George's Chapel, Windsor

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—May I be allowed to announce through your paper that on Easter Tuesday the main part of St. George's Chapel will be closed, probably for three years, in consequence of the necessity having arisen for extensive restoration? The danger is so pressing that the architects would not guarantee that the chapel would stand for another year without the collapse of the roof—a collapse which would entail utter destruction of the fabric, with all its artistic and historical glories.

Though the chapel and its precincts stand within the walls of the Castle, they are an ecclesiastical freehold like any other Church property, and consequently public money cannot be spent on them. The Chapter have no funds available for the purpose. They laid the matter, therefore, before the Sovereign and Knights of the Order of the Garter, for whose use and by whose generosity the chapel was originally founded.

It was then decided at a meeting of the Order, under the presidency of H.R.H. the Duke of Connaught: 1, That the chapel must be saved; 2, that in view of the financial conditions of the time, as little call as possible must be made on the generosity of the public. In pursuance of this decision it was arranged to spread the work over four years, and the members of the Order undertook to provide the funds for the first year.

A Committee was formed, including some representative men outside the Order, especially the Provosts of Eton and Kings, as representing the interest of those great foundations in the chapel as the burial place of their founder. Of this Committee H.R.H. the Prince of Wales agreed to be chairman.

A subscription was also begun among the members of the Order, which was responded to with the generosity they have always shown towards the chapel; a generosity all the more striking in the financial conditions of to-day. This subscription, though not yet quite complete, amounts already to £20,000. When the first notice appeared in the papers many months ago that a restoration would be necessary, some of the firms holding the Royal Warrant united in sending me a handsome subscription, saying that they were doing so as an opportunity of giving expression to the gratitude which they, with the whole nation, felt for the great services the King and Royal family had performed for the nation during the war, the restoration of a building so closely associated with the Royal House being a suitable occasion, in their opinion, for such an expression of feeling. This, with one or two other subscriptions, has brought the fund up to £25,000. As we expect to spend about £2,000 a month, the first year's work is secured. During this year we must try to raise the funds for next year so that the work can go on without check.

During the coming month we shall be glad to give facilities to those who would like to see the chapel before it is closed, especially to architectural and archæological experts who wish to see what we are proposing to do. During the three years when the choir and transepts are closed the services will be held in the nave. The work is pure restoration, merely the replacing of decayed material. No alteration will be made in the fabric, and no restoration included in the scheme which is not necessary for stability. The Committee and the Chapter feel that this is an assurance due to the nation in its present financial difficulties. There is only one apparent exception to this rule. The architect holds, as Sir Christopher Wren urged long ago, that the King's beasts must be restored on the pinnacles, as their weight is one of the counterpoises provided by the original architect to resist the thrust of the roof. The cost is not a very important item. Anyone can see their artistic value by looking at Hollar's print of the chapel before their removal.

ALBERT BAILLIE,
Dean of Windsor.

An Architects' Club at the Building Exhibition

A feature of the Building Exhibition at Olympia last year was the innovation, introduced by the Society of Architects, of the Architects' Welcome Club, and the organisation of a number of conferences and social functions, all tending to bring those concerned into closer relationship in matters of common interest. The successful pioneer work of the society has resulted in their being joined this year by the Royal Institute of British Architects and the Architectural Association in the organisation of a similar programme.

The Princes' Room at Olympia will be equipped as before as an architects' club for use during the period of the exhibition from April 12 to 26, and there will be exhibitions of architectural photographs and of drawings from the leading architectural schools and ateliers, and kinematograph demonstrations of the work of the architect in carrying to completion, with the aid of the contractor, the buildings the architect has conceived and designed. There will also be lectures by experts on subjects of public interest, with special reference to the provision of homes for the people. These demonstrations and lectures will be free to the public visiting the exhibition, one of the objects being to enable the uninitiated to gain a better idea of what is involved in the training of an architect and what he stands for in the national scheme of public service.

On Friday, April 22, there will be a public dinner in the Pillar Hall, Olympia, organised by the three architectural bodies, when representatives of the Government, kindred institutions, foreign architects, and of the building industry will be the guests of the club.

Through the generosity of the director of the exhibition the use of a special admission ticket by members of architectural societies will ensure a contribution by the director to the funds of the Architects' Benevolent Society, so that these architects will not only derive personal pleasure and profit by visiting the exhibition, but will be the means of adding, without expense or obligation to themselves, to a fund which, at the present juncture, is greatly in need of support.

An official programme will be issued in due course, and in the meantime any communications in regard to the Architects' Welcome Club programme should be addressed to the secretary of the Society of Architects, 28 Bedford Square, W.C.1; the secretary of the Royal Institute of British Architects, 9 Conduit Street, W.1; or the secretary of the Architectural Association, 34-35 Bedford Square, W.C.1.

[Arrangements have been made to publish three special issues of the ARCHITECTS' JOURNAL dealing with the exhibition. Full particulars of these will be announced shortly.]

Gift of a Staircase to the Nation

Within a short time the Victoria and Albert Museum at South Kensington will be enriched by the addition of a wrought iron staircase of much beauty and interest. No. 35 Lincoln's Inn Fields, having been purchased by the College of Estate Management, is now undergoing internal alterations. The architect has received instructions to preserve as far as possible all noteworthy features, but, as it is impossible to preserve the staircase in its present position, the governors of the college, with commendable public spirit, have presented the ironwork to the nation. The process of removing it has begun this week, and it will be transferred at once to the museum.

The balustrading is of finely-wrought iron, and on the first landing is a panel of similar work. It consists of nearly forty panels, each being adapted to its particular position. They are of the well-known lyre pattern, embellished with acanthus leaves in repoussé work. The panel on the first floor is of great beauty; the centre is occupied by a monogram within an acanthus leaf framework, which rests upon a cloth of Estate and is surmounted by a satyr mask. It is flanked by bold scroll-work enriched with applied acanthus foliage, the upper scrolls terminating in eagles' heads.

The lavish use of embossed foliage and other decoration suggests that the ironwork was the production of a London smith early in the eighteenth century, who was an admirer of the style of Jean Tijou, the French smith who had just completed his great work at Hampton Court and St. Paul's Cathedral. In presenting this excellent example of decorative ironwork to the Victoria and Albert Museum the College of Estate Management has shown a commendable sense of responsibility towards the public. If that sense were more generally diffused among individuals and bodies who have on their hands the fate of fine specimens of old English workmanship, the national museums would become what they ought to be—places where the taste and skill of former generations of English craftsmen, shown in a really representative series of samples of their work, might serve to stimulate and direct the efforts of their successors.

[Apropos of this staircase an extremely interesting article by Mr. James Bone has appeared in the "Manchester Guardian."]

R.I.B.A. Council Meeting

The following business was transacted at the last meeting of the Council of the R.I.B.A.:—

H.R.H. the Prince of Wales.—The Prince of Wales has consented to accept the Hon. Fellowship of the Royal Institute, and the nomination will be submitted to the general body in due course.

R.I.B.A. Library.—The Council are considering an interesting scheme prepared by the Literature Standing Committee for improving the accommodation of the Royal Institute Library.

Conditions of Contract.—The Council have appointed a committee for the purpose of meeting representatives of the Institute of Builders and the National Federation of Building Trades' Employers and discussing the position with regard to conditions of contract.

Housing in Rural Districts.—Arrangements have been made for the appointment of a member with special experience in rural housing schemes to assist the representatives of the R.I.B.A. in negotiations with the Ministry of Health.

R.I.B.A. Garden Party.—A garden party will take place on Peace Day, 1921, on the same lines as the successful function of last year.

The Godwin Bursary, 1921.—The programme of the tour of Mr. C. B. Pearson (Fellow) as Godwin Bursar, 1921, has been approved. Mr. Pearson will travel in the United States to study the planning and construction of hotels.

Reinstatements.—Three members have been reinstated under By-law 22.

Book Notice

Smithsonian Institution Reports.

Two volumes of reports that have been forwarded from the Smithsonian Institution, which was founded at Washington, U.S.A., in 1846, "for the increase and diffusion of knowledge among men," record the operations of the Institution during the years 1919 and 1920 respectively. Each includes in a "general appendix," a score or more of articles on various scientific subjects, ranging from mineralogy to aviation. Some of the writers are Englishmen of high standing, who have permitted their contributions to scientific periodicals to be reproduced in volumes that are not published for profit—except such profit as accrues from the dissemination of useful knowledge. An article by Mr. W. M. Flinders Petrie, for instance, on "History in Tools," is reprinted from "Science Progress," and Sir E. Ray Lankester permits to be taken from the "Quarterly Review" his brief biography of Sir Joseph Hooker. The value of the volumes is considerably enhanced by the large number of plates included in each.

Annual Reports of the Board of Regents of the Smithsonian Institute, for 1917-18. Washington Government Printing Office, 1919 and 1920.

Publications Received

"Industrial Housing," by Clinton Mackenzie, architect; "Restful Rooms" and "The Center of Your World," Curti Service Bureau, Inc.; "Housing and Labor," by M. C. Tuttle; "The Housing Problem," a Summary of the Bridgeport Housing Conference, by Henry S. Pitts; and "The Housing Situation and the Way Out."—The National Housing Association, 105 East 22nd Street, New York City.

The Metropolitan Water Board's New Departure

A correspondent has sent us the following information with regard to the rejection of fittings by the Metropolitan Water Board:

Within the last few weeks the Metropolitan Water Board have taken a new departure in issuing new instructions to their inspectors, etc. These have resulted in the rejection by the inspectors in many parts of the Metropolitan Water Board area of fittings which have hitherto been fixed without any difficulty arising.

This "rejection" is in the form of a statement that the fittings "cannot be passed," or that they "are not approved," or that they "must not be fixed," because they are not made in accordance with either the specification of the New River district of the Metropolitan Water Board, or in accordance with the specification of the British Waterworks Association, which is not yet published. Generally, and in effect, the inspectors are saying, or are giving the builders and plumbers definitely to understand, that a supply of water will be withheld unless the fittings are thus made and stamped.

No notice of this new departure appears to have been given to any of the manufacturers or merchants, or to the trade generally. No consideration has been given to the effect of the sudden enforcement of such new demands in rendering obsolete large stocks of fittings held in many hands.

The opinion of a leading King's Counsel shows that the Metropolitan Water Board have no legal power to enforce what they are demanding through their inspectors. A method is provided by statute for obtaining consent to all necessary and suitable regulations, and such method ensures that the interests of the public are duly considered by the means therein provided. Is it not the case that in 1901 the water companies actually tried to get new "requirements" added to their Regulations of 1872, and had they not to abandon their attempt owing to the strong opposition they encountered?

Our correspondent suggests that the course followed by the Metropolitan Water Board should be opposed on the grounds: (1) That it is not legal; (2) that it is not in the public interest that the cost of building should be increased. This would be the inevitable result of the enforcement of the Board's demands. Not only would the fittings cost more to produce, but the public would have to bear the expense of having the fittings stamped by the Board. For this stamping the Board charge fees already sufficiently high, but, probably, to be still further increased in the near future.

There is no desire to refuse to supply fittings of a sound, suitable, and efficient kind as required by the Regulations of 1872, but the standard of fittings demanded is for the moment in excess of reasonable requirements. The Metropolitan Water Board has been asked to arrange for a test case on the question involved if the Board is of opinion that the demands of the inspectors can be supported and approved in a court of law.

The opinion of counsel is as follows:

No regulations other than those dated August 10, 1872, can be enforced in law by the Metropolitan Water Board, unless new regulations are obtained and sanctioned by the Ministry of Health in the manner provided in the Metropolis Water Act, 1871, Section 22. Early in 1901 an attempt was made by the Metropolitan Water Companies to substitute new regulations for those authorised in 1872. On submission of the proposed new regulations for approval to the Local Government Board much opposition arose, an enquiry was held before a Departmental Committee, and the enquiry went so badly for the companies that after the enquiry had proceeded for several days the companies withdrew the proposed new regulations altogether. The result is that the Regulations of 1872 remain in force.

2. The "Specification for the Manufacture of Water Fittings," now published by the Water Board, has no force whatever in law. Nor has the document called "Instructions to Plumbers," originally published by the New River Company, and now apparently adopted by the Water Board. Both documents are obviously attempts to "bluff" the building trades concerned and the public. The paragraph in the latter document, headed "Recommendation of Plumbers," is an illegal and entirely improper attempt to enforce requirements as to water fittings which are unauthorised by statute or statutory regulation, and would be commented upon very strongly if brought before a court of law.

The Water Board cannot legally insist upon the use of fittings made in conformity with their "specification," nor can they legally refuse to supply water to buildings in which are fixed water fittings not in accordance with this "specification" if the fittings comply with the regulations of 1872.

The Water Board would, moreover, in my opinion, have no possible chance of obtaining the consent of the Ministry of Health to any new regulation requiring the use of water fittings to be made in accordance with any such, or indeed any, "specification." The effect of such a "specification" is to increase the cost of building, which at the present time is obviously against the public interest.

3. The Water Board have no power in law to insist that any water fittings before being fixed in buildings must be sent to their testing office, or be tested anywhere, or receive the approval or disapproval of the Water Board, nor have they any right to charge a fee for testing. Of course, there is no obligation upon the Water Board to test fittings.

4. Neither the Report of the Departmental Committee upon the Metropolitan Water Act, 1902, dated June, 1920, nor the Bills introduced into Parliament by the Water Board for the present session have any bearing on the questions put before me. These two Bills are the Metropolitan Water Board (Charges) Bill and the Metropolitan Water Board (Various Powers) Bill.

5. Generally, I have only to add that the Water Board will not attempt to enforce any of their so-called "requirements" or "specification" if they think the matter of their validity is to be tested in the Courts.

A copy of a letter dated February 10, 1921, signed by Mr. H. F. Rutter, has been handed to me. In this letter it is stated that the Regulations of 1872 "give authority for the Board to prescribe sound, suitable and efficient fittings." The Regulations give no such power.

Mr. Selfridge on "Architecture and Commerce"

Mr. H. Gordon Selfridge read a paper on "Architecture and Commerce" before a general meeting of the Architectural Association last week. Mr. G. Gilbert Scott, A.R.A., presided.

Mr. Selfridge said that just as a physician would throw up a case if he were dictated to, so a self-respecting architect would refuse to design a building if he were subject to the dictates of a client who was ignorant of architecture. Of all the arts, architecture seemed to be the most fascinating, for it was utilitarian as well as beautiful. As a very ardent devotee of "that delightful game called business," he regretted to have to say that commerce had failed very decidedly to do its share in producing the beautiful buildings of the world. Commercial architecture should suit the undertakings the buildings were intended to house, and should be ornate. In America it had advanced more than in any other country because almost everyone there was engaged in commerce, and took such a pride in his own particular undertaking that he felt he had failed in his duty to himself, his business, and his city unless he had housed that business in a building which was consistent with its purpose and well constructed.

The most conspicuous and the least successful of American commercial buildings were the high buildings, or "sky-scrapers." It seemed to him almost impossible to achieve good architecture with a building that was four or five times as high as it was wide. His friends in America were really proud of the Woolworth building, which was referred to as a "cathedral of commerce," but he had little admiration for it. If it rested with him, he said, he would certainly not allow high buildings in London, for the reason that he had more regard for the beauty of the city than the utility of the buildings.

The public did not quite realise all that a building meant, he continued. Once a building was erected it remained to all intents and purposes for ever. In America, it was true, the general opinion was that any building more than twenty-five years old should be pulled down, but in this country a building was supposed to last until it fell down. Of all the fine arts, architecture was the most admirable, because it combined qualities of great utilitarian value with a superlative degree of beauty.

Architects in this country could do much towards making the lives of people happier through the process of imagination. Store buildings in America had made as great progress as in any other enterprise. He looked forward to the time when the architecture of our commerce would be placed on a higher plane, and when our business buildings would add much to the beauty of our cities.

Until now commercial architecture had been surpassed by ecclesiastical architecture and public buildings, but there was no doubt that commerce had begun to realise its responsibilities in the matter, and in the future would have to its credit many buildings which would be a source of pride to the city in which they were placed and of joy and delight to the public.

[It may be added that precept and practice have gone hand in hand with Mr. Selfridge, whose great store building in Oxford Street set a new standard for commercial architecture in London.—Eds. A.J.]

News Items

Housing at Skipton.

The R.D.C. have decided to borrow £6,540 for housing at Addingham.

Mansfield Sewerage Works.

The T.C. propose to carry out sewerage works estimated to cost £4,500.

Hut Conversion at Egham.

£9,272 is to be spent by the U.D.C. in converting military huts into dwellings.

Housing at Holywell.

The Housing Commissioner has approved the erection of twenty houses at Greenfield at a cost of £17,000.

Death of a Colchester Builder.

The death is announced of Mr. Robert Beaumont, of the firm of Messrs. Beaumont and Son, of Lexden, builders.

Plumesgate Rural Housing.

The R.D.C. have decided to obtain a loan of £40,000 for housing from the Public Works Loan Commissioners.

Ham Urban Housing.

The Public Works Loan Board have sanctioned the borrowing by the U.D.C. of £25,000 for housing.

Renewal of Practice.

Mr. Charles W. Long, F.R.I.B.A., has resumed his London practice at 36 Bloomsbury Square, W.C.1.

Mr. E. Godfrey Page, A.R.I.B.A., has severed his connection with the Ministry of Health and has resumed practice at 11 Gray's Inn Place, W.C.1.

Gloucester Housing.

Eighteen brick and two steel framework houses have been completed, and fourteen brick and eighty-two steel framework houses are in course of erection.

Riccall Rural Housing.

The R.D.C. have applied to the Public Works Loan Commissioners for a loan of £18,000 for carrying out a housing scheme at Riccall.

New Club Premises at Blaydon.

New premises have been erected for the Blaydon and District Club and Institute, Ltd., from the designs of Messrs. White and Stephenson, architects, Newcastle.

School Extension at Southport.

The Board of Education have approved the purchase of the Southport Modern School, for many years a high-class boys' school, for the purpose of extending the Southport Girls' Secondary School.

Rebuilding an Ealing Church.

Already £22,000 has been raised of the £30,000 required to rebuild St. John's Church, Ealing, destroyed by fire last November. Workmen are now clearing the site.

U.S. Theatre in London.

Plans are being prepared by Mr. H. Corbett, the architect of the Bush Terminal Building, for the erection of an American theatre at the junction of Fleet Street and the Strand by American engineers and contractors.

Manchester Builders and Architecture.

Manchester branch of the Master Builders' Institute, besides contributing liberally to the Manchester University Appeal Fund, are to endow a scholarship in connection with the Chair of Architecture at the University.

Uxbridge Sewerage.

The R.D.C. have instructed Messrs. W. H. Radford and Son, of Nottingham, to prepare, in conjunction with their surveyor, Mr. E. E. T. Bolton, a new sewerage and sewage disposal scheme for the parish of Harefield.

Sunderland Graving Dock Project.

At Sunderland a scheme for the construction of a graving dock capable of accommodating vessels of a large size has been formulated by Messrs. Sir James Laing and Sons, shipbuilders. The new dock when completed will be able to take vessels 500 ft. to 600 ft. in length.

New Nurses' Home for St. Bartholomew's.

The Queen has laid the foundation stone of Queen Mary's Home for St. Bartholomew's nurses, which is to be erected on a site adjoining St. Bartholomew's Hospital, and will afford accommodation for the while of the nursing and female domestic staff. The architect is Mr. H. Edmund Mathews.

Housing at Kiveton Park.

The Housing Commissioner has approved of the erection of fifty-two houses at Anston, where the purchase of five acres of land at £604 (plus certain charges), has been authorised. The R.D.C. have decided to advertise for the erection of 120 dwellings at Kiveton Park and an extension of the housing scheme at Harthill has been approved.

Ramsgate Sea Front.

Plans have been in preparation for many months by Sir John Burnett for the beautification of the sea front at Ramsgate. Among the things for which the plans provide are: The centralisation of amusements for visitors at both the east and west ends of the town, refreshment and tea rooms, gardens, up-to-date bathing pools, a covered gallery to form a lounge for hot weather on the East Cliff, comfortable shelters on both sides of the town, a promenade round the eastern bathing pool to form a breakwater jutting out from the east end. Although the scheme has been approved by the T.C., it is not considered possible to put the whole into operation at once, but as opportunity arises portions of the work will be carried out.

Architectural Association of Ireland.

An ordinary meeting of the above Association was held at 15 South Frederick Lane, Dublin, on Tuesday, February 22. The President, Mr. J. C. Dewhurst, A.R.I.B.A., occupied the chair, and there was a fair attendance of members and their friends. Major R. H. Plews delivered a very interesting lecture entitled "Mesopotamia and Western Persia," illustrated by numerous excellent slides, all made from photographs taken by the lecturer. Major Plews, who served with distinction in the campaign in Mesopotamia, gave a graphic description of the country, its buildings and inhabitants. A cordial vote of thanks was proposed by Mr. C. A. Harrington, M.R.I.A.I., and seconded by Mr. T. F. Strahan, M.R.I.A.I.

Gresham's School Additions.

Sir Arthur Shipley has opened an extension of Gresham's School, Holt, Norfolk. The new buildings, which include biological and geographical laboratories, manual training shops, art room, and two class-rooms, have been designed by Mr. J. W. Simpson, P.R.I.B.A., and his partner, Mr. Maxwell Ayrton. The buildings are of elm framing made up in sections and bolted together, covered on the outside by elm weather boarding and lined internally with "Beaver Board" about a quarter-inch thick.

Scottish Architects and the High Cost of Building.

Scottish architects appointed by the Board of Health on the Advisory Committee for Scotland to inquire and report as to the reasons for the high cost of building working-class dwellings in Scotland, and to make recommendations as to any practicable measures for reducing the cost, are: Mr. James Lochhead, F.R.I.B.A., Hamilton, and Mr. John Wilson, principal architect, Scottish Board of Health. The committee also includes Mr. John White, builder, Edinburgh; Mr. John Train, contractor, Glasgow; and Mr. Thomas Graham, Scottish National Building Trades' Federation, Edinburgh.

Latest List of New Inventions

Latest Patent Applications.

4881. Houston, J.—Steel frame slab buildings. February 8.
4805. MacMahon, P.—Construction of buildings. February 11.
4631. Mathews, J. F. — Concrete fencing. February 9.
4784. Thomson, R.—Building blocks. February 10.
4587. Hojgaard, J.—Wall construction of concrete, etc. February 9.

Specifications Published.

158299. Green, W.—Fireproof or other coverings for floors, ceilings, and the like.
158345. Wells, P. C.—Repair of roofs and roof supports of hothouses and the like.
58356. Whitelegge, J. G.—Casting of buildings in situ, applicable also to the casting of blocks.
158390. Baynor, H. D.—Slow setting cement and method of producing same.
158397. Jackson, W. Mellersh.—Concrete floors or roofs.

Abstract Published.

155462. Roofs, ceilings.—Hurden, E., The Gables, and Hurden, A. P., The Haven, New Park Road, both in Harefield, Middlesex, and Beeson, S.E., Church Street, Rickmansworth, Hertfordshire.

A roof and ceiling are constructed of a number of complementary combined half-sections, the frame members A, B, of the ceiling and roof respectively being pivoted, attached, or linked together as by a link C, so that the roof portion may be raised and lowered with respect to the ceiling portion.

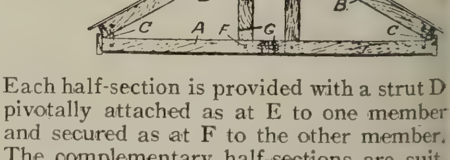


FIG.2.

FIG.1.

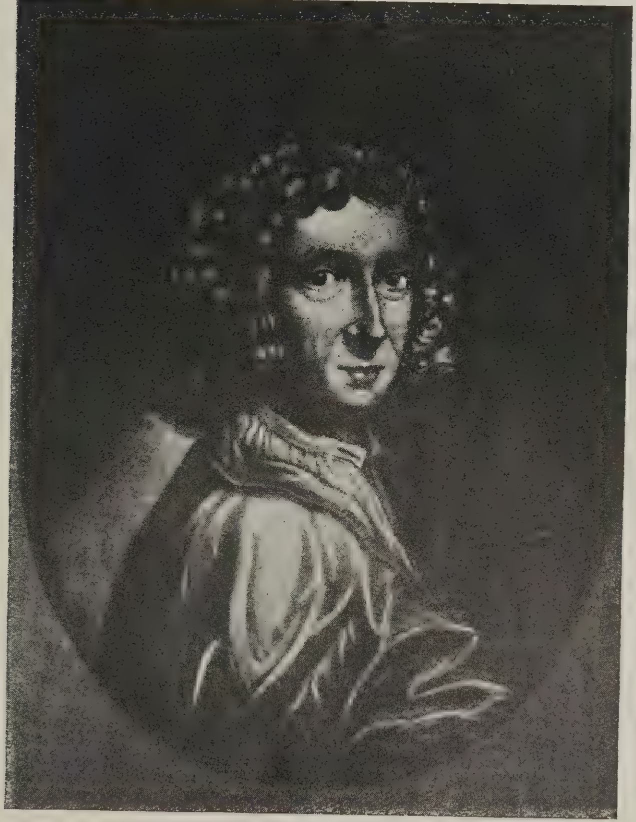
Each half-section is provided with a strut D pivotally attached as at E to one member and secured as at F to the other member. The complementary half-sections are suitably jointed when in position by bolts G, or otherwise. The half-sections are completely built, finished, and covered in the works, and are transported to, and erected at, the site.

The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2, from whom readers of this Journal may obtain all information free relating to patents, designs, and trade marks. Messrs. Rayner and Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1s. each.

Wednesday, March 9, 1921 Volume LIII. No. 1366

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

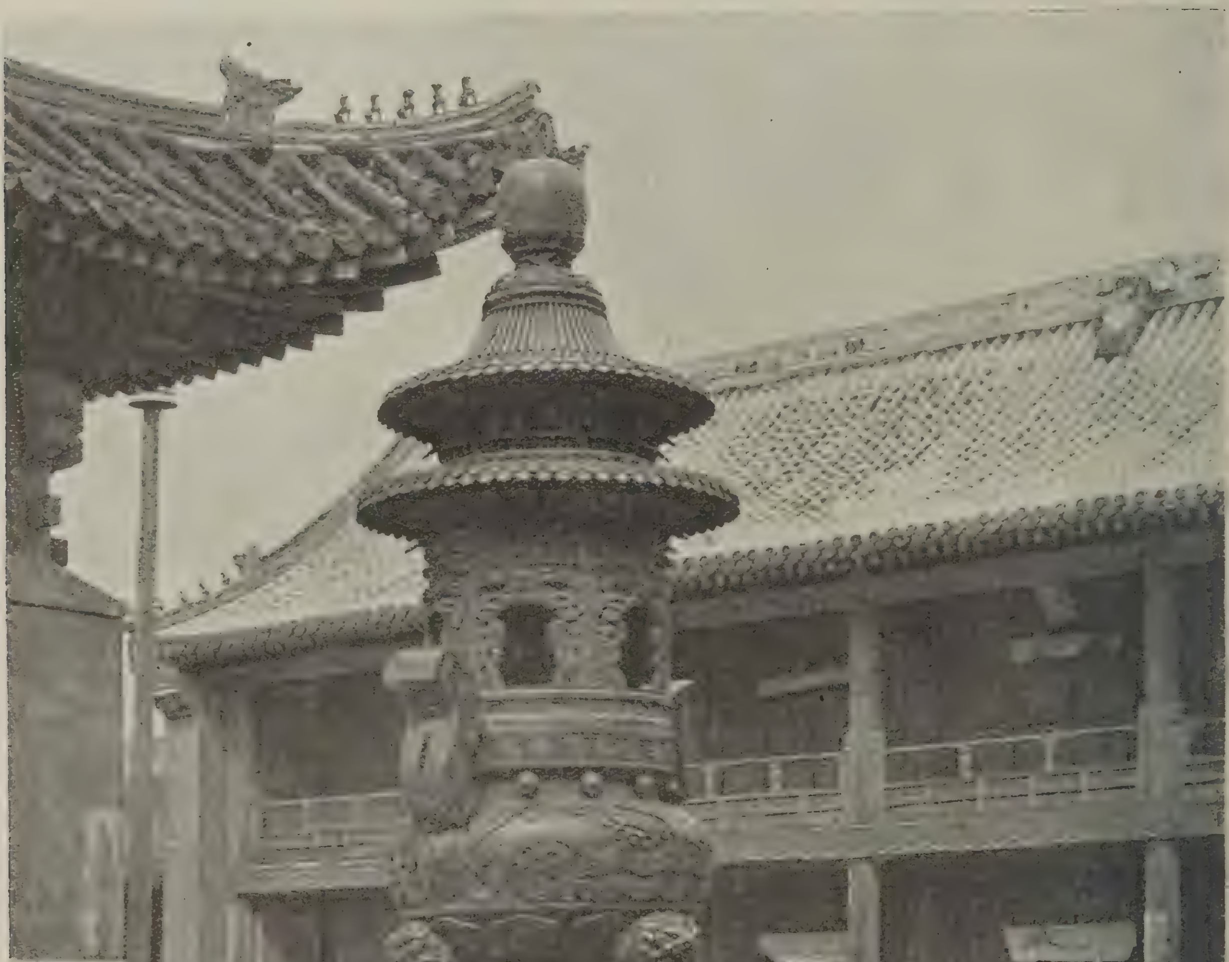


HENRY CYLES

Henry Cyles, glass-painter of York, born 1645, was the son of Edmund Cyles, a glass-painter, and grandson of Nicholas Cyles, who followed the same profession. By his work he preserved the art of glass-painting alive in York, so that it is probably the only city in which the craft has been continuously practised from mediæval times until the present day. Cyles worked for both Universities, but had great difficulty in being paid by them. The east window of University College, Oxford, dated 1687, most regrettably removed and stored away in 1862, was his work, and, according to Winston, the earliest picture glass-painting in England. Cyles became greatly impoverished towards the end of his life and subsisted on the charity of friends, among whom was Thoresby, the Leeds antiquary. He died in 1709.

27-29 Tothill Street, Westminster, S.W.1.

Details of Craftsmanship. 8.—A Chinese Example



Illustrations of Chinese work are always of interest to the architect, mainly because they reveal the conservative tradition of China. The construction of the galleried verandah forming the background of this rich bronze fountain belongs to the building traditions of three thousand years ago—traditions that persisted even in the halls and palace façades of Persepolis. Apart from the archæological features, the treatment of the verandah, the gallery, and the tiled roof, suggests possibilities for modern adaptation.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Vednesday, March 9, 1921 Volume LIII. No. 1366

State Interference with Industry

CONCURRENCE with one's views on public affairs is almost invariably pleasant. In a volume that has just reached us—"Housing Problems in America," being a report of the roceedings of the Eighth National Conference on Iousing, which was held at Bridgeport, U.S.A.—Mr. awson Purdy, formerly chairman of the Board of 'axes and Assessments of New York City, said, in his aper at the conference, "I am personally, constituionally, I suppose, opposed to interference by the State. think the Government should mind its own business nd keep out of private business that ordinary persons an perform. That is not to say that, in times of very reat emergency, such as we suffered from during the ar, it may not be legitimate, and the province of nlightened statesmanship, to do things which under rdinary circumstances, would be entirely wrong to lo." One would prefer to approach the subject as Ierbert Spencer did, impersonally and as a matter of rinciple rather than predilection. Spencer held—and e have repeatedly and quite independently expressed uch the same opinion—that, as far as possible, the inctions of a Government should be purely legislative. y mixing its functions it dilutes or sophisticates the ssue. Because of its heterogeneousness the Governient of the day—that is, of our day or any day—often nperils its very existence, by making itself responsible or the tactical blunders or economic crimes, the xtravagance or the meanness, of the Departments it has reated, any one of which may at any time develop into a ragic Frankenstein monster. In normal times there is o need to incur such risks, no necessity for Government o burden itself with obligations it is incompetent to ulfil; but unfortunately it is difficult for a Government o rid itself of a burden it has once assumed, and much ritating bureaucracy lingers on for no better reason han the difficulty of disbanding its purveyors, and thus welling the already plethoric army of the unemployed. ut while it is at once too late and too soon to disband, or example, the army of architects in charge of the ational housing movement, it is neither too late nor remature to check the inordinate exuberance of megaloania that still aims at the further extension of Governient or municipal Departments, or even at the creation f new ones. It is not too late (nor, we believe, is it preature) to protest against any proposal to enlarge the ffice of Works, for instance; nor is it premature, now hat Socialism is assuming Protean shapes, to reiterate he oft-repeated caution against municipal trading—hat it is uneconomic and unfair.

With respect to the proposed further aggrandisement f the Office of Works, there is no need to elaborate the rgument against aggregating under official authority nd control an increased number of architects. Official nvironment is not popularly regarded as being in the ighest degree favourable to the development of origiality or initiative. Untrammelled freedom being ssential to the healthy development of art, official architecture can usually have but little distinction of character. One may say, in mere justice, that official architecture, Government or municipal, is almost invariably "correct." Yet who can wonder that, considering the system under which it is produced, it is very apt to be tame, perfunctory, spiritless? In one of his diverting stories, Mr. H. Bulkeley Creswell has a very amusing account of a mischance that befell a house designed under wholesale stores or workshop conditions: it was delivered at the wrong site! That, of course, is a kind of accident that is not likely to happen outside a humorous novel; but the side-splitting narrative nevertheless points a moral—that deplorable casualties may be expected when Wholesaling and Art are unequally yoked together. Moreover, the anecdote suggests sundry interesting enquiries as to what happens when Government buildings in remote parts of the kingdom are designed from headquarters. Surely there must be travelling and hotel expenses that in the aggregate must amount to a considerable sum. Then this herding and corralling is not fair to the outside architect. It deprives him of his share in many of the opportunities for civic design. When the municipality to which he pays rates spends a portion of them on doing the work which he has no chance of getting, because it is the monopoly of the city architect, the borough surveyor, or the municipal engineer, who will do it in no emulative or competitive spirit, but (as a rule, and unless the man and the circumstances are very exceptional) merely as a matter of routine business rather than of artistic inspiration, the private architect has a legitimate twofold grievance: he can hardly help feeling sorry for himself and for his art.

Objection to "interference by the State" is, then, expression, not of opinion, but of substantial grievance, when the interference is found to be bad for progress and for trade. That has been so plainly the effect on the building industry in all its branches, and consequently on all other industries—for do they not all depend on the healthy functioning of building, which is at the heart of things?—that one is distinctly more pained than surprised at the sluggishness of the housing movement, at the unwholesome condition of dearth of men and materials, at the general inflation of prices, at the hollowness of the parrot-like reprobation of so-called "luxury building," at the demoralisation of the workers by the offers of bonuses of so much per man accepted for dilution, at the disorganisation of the industry by the offer of preferential terms to guilds that do not care whether or not they eliminate the contractor, and at sundry other hectic flushes that are symptomatic of the unhealth arising from the State's lock-hold on the arteries. Let the State relax its paralysing grasp, and industry—particularly the building industry—will recover quickly and thoroughly from what may appear to be "sleepy sickness," but is in reality the effect of the opiate of State interference. As Mr. Lawson Purdy said with American directness, "Government should mind its own business." That is the only way to secure cheaper building. As Mr. Hopkinson said in the House of Commons in the course of the debate on unemployment: "The problem before them was the best way to get wages down to a reasonable basis without creating a spirit of bitterness and ill-feeling which might possibly destroy the political and industrial organisations of the country." Reasonableness and amiability on both sides are conditions precedent to the success of the proposal for varying wages by a sliding scale based on the cost of living. This proposal has been put forward by the National Wages and Conditions Council, and its acceptance by the trade unions should be much less difficult now than it would have been if the unions had not shown, in their tardy assent to the principle of dilution, a marked disposition to become more reasonable. This return to sanity, while mainly due to natural or economic causes, must be attributed in some measure to the wisdom and good temper with which the organised building trades employers have handled a very delicate situation, and solved a very difficult problem. We wish that the State had hearkened earlier and more attentively to their sagacious counsels.

Church Funds and Fabrics

We are glad to print in this issue Dean Baillie's very courteous reply to our note (last week) on the St. George's Chapel appeal. We should like to assure him that in writing that note we were solely actuated by our concern for the preservation of the glorious fabrics that are in the Church's keeping, and by our feeling that there ought to be some less casual means of obtaining the necessary funds for the maintenance, not specifically of St. Georges' Chapel, Windsor, but of all ecclesiastical buildings for which it is claimed that they are of national importance. It would not then be necessary to importune the public for funds, nor to risk a meagre response in the lean years when, as at the present time, those who under normal conditions would be likely to subscribe liberally are compelled to give but sparingly, or altogether to withhold their hands, because incomes have diminished and rates and taxes are exorbitantly high. The Dean of Windsor admits, in his letter, that the Church's funds are not pooled, or centralised, as we think they should be, to be economically, methodically, and equitably administered. That is in effect our main contention—that within the Church itself there is enough money to constitute an ample building and repair fund. If money could be taken out of the pool to pay for necessary repairs as occasion demanded, Church buildings need never be allowed to fall into such a parlous condition as to illustrate forcibly that dismal sequence of cumulative disasters, "For want of a nail the shoe was lost," and consequently the horse and the kingdom were forfeited. To secure the reform indicated, it would seem necessary first to approach the Ecclesiastical Commission. No doubt this wealthy corporation, which derives its constitution and its powers from Parliament, does excellent work within its scope. That scope seems to us to be somewhat narrow. Parliament should be asked to enlarge it so as to include responsibility for the maintenance of all Church fabrics of national importance. It appears that the Commission was incorporated in 1836, and that its constitution was amended in 1840-1 and 1868. More than fifty years ago the times were different. At that date there had grown up a vicious liking for ecclesiastical ruins. They were thought to look more "picturesque" than buildings kept in good repair, consequently—it sounds bizarre, but it is a psychological fact—repairs were deliberately neglected so generally that an observant author was tempted to compile a volume on "Ruined Abbeys and Deserted Churches." It was in this tradition of sickly sentimentality for ruins that the Ecclesiastical Commission was formed. Veneration for "ancient ruins" being no longer rampant, should not the Ecclesiastical Commissioners be given fuller scope for acting more in accordance with the more modern and more wholesome spirit? Surely, after fifty-three years, the Ecclesiastical Commission is in need of a further revision of its constitution. The good word for it that the Dean of Windsor has so kindly said is doubtless well deserved; but no organisation is so perfect that it cannot be bettered, and is in no need of being brought up to date after fifty-three years of placid existence in a changing world.

Management Efficiency

To hold a foremen's conference is an excellent idea. To get an expert to lecture to it on "Management Efficiency" is greatly to augment its value. Such a conference was held on February 28 at the Crown Works, South Lambeth, and such a lecture was delivered by Mr. W. Charles Loosmore, M.A. He began by dispelling any prejudice against efficiency ideals, showing that they certainly did not imply over-pressure, or further enrichment of the capitalist, or an increase of unemployment, but that, on the contrary, they made for increased production, diminished cost, ease and pleasure to the worker. Efficiency, as the lecturer explained, means the substitution of order and method for rule of thumb, and aims at increased production at reduced cost. Foremen, no doubt, knew all this very thoroughly, but it was wise to confirm and clarify their knowledge on such points. On other matters the lecturer broke new ground, when, for instance, he dealt clearly though simply with the psychology and temperament of the worker, with the causes and consequences of fatigue, and of preventing it, with motives and incentives, and so forth. Our twofold object in mentioning the lecture, and in indicating some of its main heads, is to exemplify and commend the enlightened interest that a firm of building-trade employers takes in its workpeople; because, on all grounds, it is desirable that the example should be followed. A particular reason for the citation is that it may help to induce architects to take a more prominent part in the promotion of such excellent work, which, if it were more widespread, would ultimately lead to that change of heart and of spirit which is the one thing needful to industrial regeneration. It is delightful to find that the building industry is in the van of the movement.

Mr. Hambidge's Theories

Mr. Jay Hambidge's paper on "Dynamic Symmetry in Ancient Architecture," read before the R.I.B.A. on March 1, naturally had a much less startling effect than the lecture in which he first broached his theories of the mathematical bases of symmetry or relative proportions. It is now realised that Mr. Hambidge's revelations and conclusions, at which he has arrived with such persistent industry, differ only from the results of common perception as estimate of height, breadth, circumference, or degree of curve or taper differs from ascertainment by actual measurement with tape, plummet, and compasses or, to put it more simply, as a freehand sketch differs from a dimensioned drawing. It may be perfectly true however, that, as Mr. Cloudesley Brereton said, Mr Hambidge was "recovering a lost part of the grammar o art." His theories, at first received with rathe unmannerly derision and much incredulity, because i was believed that he was endeavouring to substitute mathematics for æsthetics, are now regarded with general admiration for the dogged perseverance with which Mr. Hambidge pursues his investigations and elaborates his theory; of which the crowning merit i that one may admire it without prejudice and withou professing the smallest belief in its validity. We do no impugn the facts put forward, but we are unable to attach to them the same significance as that embodied in Mr. Hambidge's theories.

Seth Pecksniff: "The Architect, Artist, and Man"

By H. B. CRESWELL, F.R.I.B.A.

IT may be somewhat of an innovation for a writer in a decorous technical journal to address a serious and erudite profession—how serious and how erudite we all know—upon such a trivial subject as a character in fiction; but I observe that British solemnity has not yet recovered from the war. We do not, for instance, leap into a starched shirt and a white tie with the fevered emulation of old days, and, what is more to my point, the Architectural Association has on occasions displaced the papers which used to be read before president and members in favour of informal talks—the informality gaining great weight from the circumstance that the talk is inaudible to anyone who has the misfortune not to be seated in the speaker's lap. Well, if it does not bore me to write about "The Great Mr. Pecksniff the Celebrated Architect," I do not see why it should bore others to read about him; so here goes.

The point of interest for us is, of course, that Pecksniff was an architect. Dickens wrote his novel, "Martin Chuzzlewit," when he was thirty. It followed "The Old Curiosity Shop," and preceded "Dombey and Son." The theme is self-seeking and greed; the plot is, as usual, of no importance. What we are concerned with is the display and contrast of human foibles and characteristics, and the leading personality in the book, and one of the most memorable, is Seth Pecksniff, "the architect, artist, and man," as the gentleman in Todger's boarding house described him in the serenade with which they honoured Pecksniff and his daughters.

The professional accessories of Pecksniff do not fully appear in an ordinary perusal of the book, they are conveyed by hints, comments, and references scattered through the book, and a clear idea of what Dickens had in his mind can only be obtained by a close reading directed to the point. When this is done the result is surprising. Making due allowances for that exaggeration which was one of the chief resources of Dickens's somewhat crude artifice, it is found that the picture presented is consistent with itself, true to life, and true to humanity; and it is clear that Dickens is writing from knowledge made familiar to him by observation, and that the architectural lumber has not been acquired for the purpose of giving colour to the book. This fact has to be considered side by side with another curious feature of the novel to which Andrew Lang long ago called attention in a paper on "Dickens," which has since been reprinted in a volume entitled "Essays in Little," namely—the author's detestation of Pecksniff. The reader is amused at posturings of Pecksniff that enrage his author. Dickens drew many hypocrites, and it was always his faulty habit not to allow the villainy or merits of his characters to appear through their speech and actions—as they invariably most adequately do—but to emphasise the ugliness or beauty of their natures and their conduct with elucidation and commentary. Dickens labours unsparingly to load Pecksniff with every mean motive and villainous action that can attend self-seeking and hypocrisy; and searches his vocabulary for words sufficiently ferocious and abusive to stamp this child of his creation into the lowest ignominy of the reader's contempt. The intensity of the author's feelings are such that he actually knocks Pecksniff down no fewer than three times. Thus it becomes a matter of interest to us architects to know why Dickens should have made his choicest ruffian—for hypocrisy was always with Dickens the most loathsome of human foibles—why he should make the meanest of all the blackguards in his gallery of conceptions an architect. That, I think, is a subject worthy of our attention. Was it fair? Is it just?

So far as I know there is no traditional prototype of Pecksniff; but the author, as we have seen, has, without doubt, drawn on intimate, personal observation. If he had made a study of the professional accessories of architectural practice he would certainly have displayed them in those descriptive pages which are so common in his books. The accessories of Pecksniff peep out only, as occasion arises, from the author's intimacy with the cogent facts, and the personal character of his hatred of Pecksniff suggest that Dickens had in his own life suffered, or sympathised with sufferers, from architectural machinations. The other explanation is that Pecksniff was, in Dickens's view, part of a system—like Stiggins; that his hatred of Pecksniff was not personal, but due to the author's detestation of the thing Pecksniff represented.

In considering the picture of Pecksniff it is necessary to remember that Dickens's strong colours have to be viewed through sable-tinted glasses before they can be contrasted with actual life. Exaggeration is a form of "selection" in which it is the business of the artist to discriminate; and Dickens dealt in it lavishly. I, for one, am dumbfounded at Pecksniff's aptitude for shedding tears when the occasion made such an exhibition serve his purpose. Some actors can do it. I have seen Chevalier with the amazing drops running down his cheeks; and Mrs. Kendal wept every night in certain scenes; but here we have an expression of intense sincerity, and sincerity was impossible to Pecksniff. The matter is debatable, I admit; but I cannot myself shed tears at will, and I do not know anyone who can; and in this particular Dickens is, I think, guilty of the charge of exaggeration, which, it appears, was directed against him by critics of this very book, "Martin Chuzzlewit," when it was appearing in parts; for in the Preface to the first edition the author repudiates the truth of the accusation, and set about putting his critics in the wrong. He does this in a most adroit but quite unfair way, and with all the appearance of perfect seriousness: for the moment his sense of humour seems to be in abeyance. He says that if the reader considers the portrayal of any particular character in the book to be exaggerated it is because that reader has the same nature as the character he objects to. Pecksniff, he says, would consider the account of himself as absurdly extravagant, but would applaud the picture of Jonas; and Mrs. Gamp and Betsy Prig would each be delighted at the figure cut by the other, and indignant at the grotesqueness of her own portrait. It seems, therefore, that we are to be flooded by a sophistry: if we decide that Pecksniff is true to life, well—he is true to life; if we decide that his picture is false it is because we are ourselves Pecksniffs, and prove in our own selves that the portrait of Pecksniff is true to human nature. In spite of this difficulty the question seems worth considering.

Pecksniff is represented as a widower aged fifty, with two aggressively marriageable daughters. He was fairly well-to-do, for he gave his younger daughter a dowry of four thousand pounds and still had enough left to make it worth while for Jonas and his friend Tigg to take a great deal of trouble to fleece him of it. He is described as an architect out of work; a surveyor whose operations were confined to surveying the landscape from the windows of his house; and a man whose chief activities, though he did not advertise it, lay in the collection of rents. Many persons who invest their savings in house property spend the rest of their lives in collecting the rents; but one cannot readily imagine Pecksniff as going round and saying, "Well, ma, how's baby? Can you spare me one and fourpence this morning?"; and there is no doubt that it was other people's rents he collected. His other substantial source of income was the reception of pupils whose careers form one of the interests of the story. In all this, when the hyperbolical imagery is toned down, we get a familiar picture; and Dickens might have made his abortive architect and surveyor an auctioneer and a house, estate, and insurance agent into the bargain, without any travesty of the facts as we know them to-day.

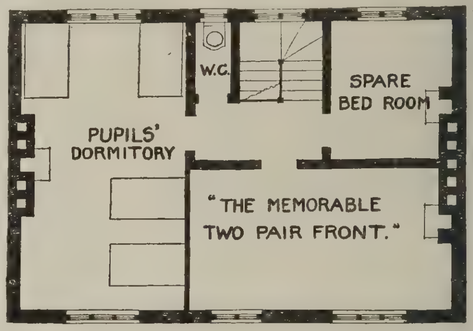
Pecksniff had his offices at his private house. I have made a restoration of Pecksniff's house from hints scattered through the book, and feel boastful of the performance. It fits the case like a blister. Pecksniff, in my opinion, would not have had a bathroom, and his sanitary arrangements would have been unpleasant. For these details I accept responsibility; in nearly all other respects the plan cannot be altered without straying from the book. It is offered as a solution of a difficult puzzle.

There was a back parlour and a front parlour—Pecksniff's "Little Room of State"—where was his bust by Spiller and his portrait by Spoker. Pecksniff's "little chamber" was the room where he pretended to make architectural studies, and no doubt received business calls. On the first floor was Pecksniff's bed-chamber, where on a small table sheets of paper, mathematical instruments, and a piece of india-rubber were laid out "in case an architectural idea should come into Mr. Pecksniff's head in the night." (This, of course, was a display arranged to impress the new pupil.) The Miss Pecksniffs reposed in the front room. On the second floor was the memorable "two-pair front," where the pupils and Tom Pinch, Pecksniff's underpaid assistant, worked—the drawing office, in fact. The dormitory occupied by Pinch and the pupils, and which contained at least four beds, was also on this floor. The "domestic assistants" were accommodated in the attics above, where they remain completely lost to view throughout the book.

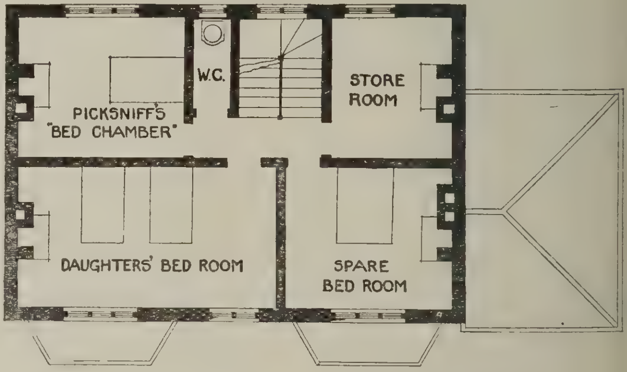
This arrangement of Pecksniff's of having his house and office under the same roof is not at all a bad one as architects who have tried it, know. The inconveniences are obvious; the mingling of daughters with drawing boards, and the smell of cooking with the smell of tracing paper is not ideal; but the chief reason why an architect leaves home every day and goes across London to horrible, barren, make-shift rooms in an obsolete house reached up a staircase that suggests a coiner's den on the top landing, and which he furnishes as meagrely as possible with towels and teapots, is entirely due to a distorted idea of dignity. It is rooted in the same habit of mind which allows a broken roofing slate to remain on his mantel-piece for no other reason than because it has been there fourteen years. Our offices are surely the most poverty-stricken, degraded makeshifts that the professional world has knowledge of. Painters and dentists and surgeons—yes, and chiropodists and crystal-gazers—know better than we do. They welcome us to their homes and impress us with the aloof, ducal character of their domestic surroundings. If they have an enviable possession—the stuffed head of a hippopotamus, for instance—they confront us with it in the entrance hall; they install confidence into our heart with their beautiful sideboards, and we feel it an honour to be allowed to pay a fee to a man who possesses such wonderfully new mahogany chairs; but I say with confidence that if a dentist operated at the address, and amid the appointments of one of our Royal Academicians himself, we should turn tail directly we got inside the door. Why poverty, dust, and disorder should be regarded as an appropriate setting for architectural practice I do not know. I have been born into it; I am soaked in prejudice; and this prejudice is so ineradicable that if I entered the offices of an architect of whom I knew nothing, and was shown into a waiting room furnished with a carpet, a decent table, a couple of chairs and a copy of "The Times," I should decide at once that the fellow was a charlatan. Pecksniff seems to have known better than we, but it is odd that he should have placed his office home in a Wiltshire village, two miles from the main highway, and ten from Salisbury.

The house stood in the street, and as the shortest way from it to the church and to the chief inn was across fields it—the village—must have been of considerable size. Amesbury seems to fit the case, although there is no identification in the book. The unusualness of a man whom the innkeeper at Salisbury described as "the Great Mr. Pecksniff, the celebrate Architect," having his house and office in a position so remote from "the hive," as Pecksniff termed it, is in large part explained by his system of exploiting pupils. In this particular Pecksniff was, like all of us, an idealist; and like many other celebrated architects of his day, and ours, seems to have attained his ideal.

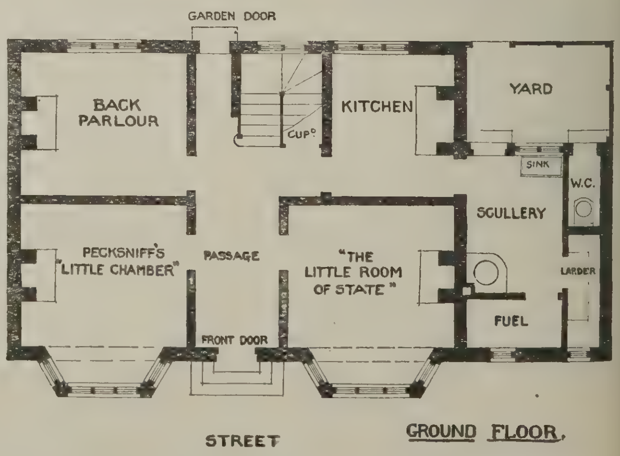
To be paid for the work we do is an ideal common to humanity. To get people to work for us for nothing is an ideal that leads to much scheming, advertising, and cheating. A few people even aspire to make others pay for the privilege of working for them, but Pecksniff, in common with all other architects, aimed higher. His ideal was to get people to pay him for the privilege of doing work for which he was paid. It is an admirable



SECOND FLOOR.

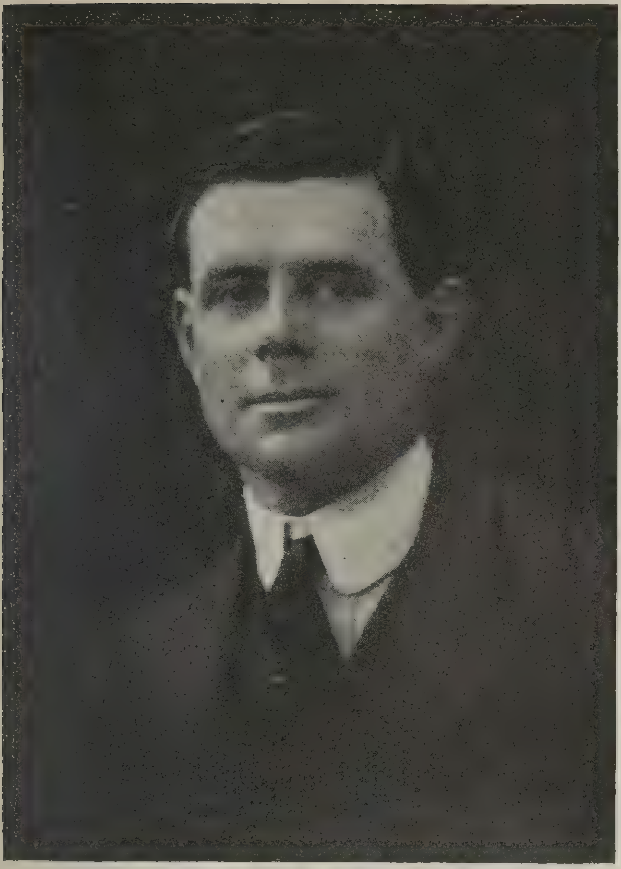


FIRST FLOOR.



GROUND FLOOR.

CONJECTURAL PLAN OF PECKSNIFF'S HOUSE.



MR. H. B CRESWELL, F.R.I.B.A.

arrangement. The architect stands in the middle and with one hand reduces the bank balance of unlucky parents who cannot think what on earth to do with their expensively-educated sons; and with the other he gathers in five per cent. commission on the work these sons do. The life is full of interest; and, on a well-established principle, the more the pupil pays the greater the advantages he receives. Even in these expensive days, by paying five hundred pounds merely, a young man may almost daily for three consecutive years observe the back of the great man through the window as he goes off to his club to lunch, and learn how an R.A. likes his half-inch details finished up and traced.

Pecksniff, who enjoyed a local celebrity only, had to rely upon unctuousness to supply what he lacked in fame. He revealed his inner thoughts to his friend, Mrs. Todgers, when tipsy, as follows:—

> "Do you know any parent or guardian who desires to avail himself of an opportunity for a young gentleman? An orphan would be preferred. Do you know of any orphan with three or four hundred pounds?"

Pecksniff managed very cleverly, and his methods might well engage our attention. Failing to track down an orphan by private inquiry, he inserted an advertisement in obscure provincial papers. It must be remembered that this was before the days of telegraphs and telephones, or even railways, and that the sophistication of England was not advanced to the point it has now reached. Rogues flourished. The advertisement read:—

> "To Parents and Guardians.—An eligible opportunity now offers which unites the advantages of the best practical Architectural Education with the comforts of a home and the constant association with some who, however humble their sphere and limited their capacity, are not unmindful of their moral responsibilities."

The sort of fish Pecksniff landed with this bait is indicated by the case of John Westlock. John put down a premium of £500, and paid £70 a year for board and lodging, which, after an experience of five years, he declared not to be worth seventeen. The reader gets a picture of a new pupil being inducted which makes the blood run cold. He is let down easily the first night, and has currant wine to his supper. At breakfast the next morning, when he innocently helps himself to Pecksniff's private bacon, Pecksniff merely becomes thoughtful and abstracted; but later on the pupil dared not look at Pecksniff's bacon, and was liable to have his bread scraped for him by Miss Pecksniff and to be cut off with one lump of sugar in his tea. Pecksniff, at an early opportunity, borrowed the pupil's mathematical instruments, "if silver mounted or otherwise valuable," and the young man was turned loose in the famous "two-pair front" in company with Tom Pinch, to improve himself by copying elevations of Salisbury Cathedral or working out competition designs. The story tells how young Martin Chuzzlewit, a pupil, is on his first arrival set to work on "proposals for a grammer school," and in a week has nearly finished a design which, after it has been spoilt, as Martin complains, by Pecksniff's addition of four windows, is awarded first premium.

A casual reading of the book would cause an architect to smile at Dickens's simplicity in this; but a close perusal reveals that the author well knew what he was about. From various comments and hints scattered through the pages we learn that Martin was older than was usual with Pecksniff's pupils; he was twenty-one; and at twenty-one in those days a man was much older than he is now— or was before the war. In those days, by some means not to be understood, boys were heavily whiskered at twenty. They raised hair freely even at school, witness "Old Brooke," in "Tom Brown's School-days," and any collection of school photographs of seventy years ago. Martin, too, had been delicately bred; he was cultivated, and had, so he claims, a strong natural aptitude. Pecksniff himself refers to him as being "already a neat draughtsman." Left in the "two-pair front" with Tom Pinch to advise him in practical matters, there is no reason why the enthusiastic Martin should not produce an ordinarily incompetent plan, with elevations lacking any but superficial acquaintance with architectural forms, such as, to this day, perfectly satisfies provincial tastes and requirements. We have, besides, to remember that Pecksniff was locally conspicuous. He was the sort of man who was chosen, by his company, to say grace at meals; he claimed, and took, a leading place. It is not to be supposed that the competition was conducted honestly; the atmosphere of public life in small provincial towns is flagrantly dishonest. Pecksniff would be awarded first premium and appointed to carry out the work on his merits; the merit that is of being able to find tenants for lands belonging to members of the committee of selection, or to introduce mortgagors —jobbery would decide the point then, as now. The fact that Pecksniff was born in the neighbourhood would alone far outweigh any question of special merit in the design, which, however, being superficial in conception, would make obvious appeals to ignorant men. The one point where Dickens goes astray is in representing the authorities as passing over the work to Martin, on his establishing his claim to authorship in the design. That is an error involving several glaring improbabilites.

In addition to the fraudulent premium and exorbitant charge for board and lodging to which Pecksniff's pupils were subjected, these young men were called to face the risk of marrying Pecksniff's daughters. This is a danger which I believed to have become obsolete as an incident of architectural education, but I am informed that it has lately asserted itself at the Architectural Association schools. This seems an excellent thing—the young people are made happy and a potential architect is wiped out of existence; for a lady-architect married is, I fancy, a lady-architect marred.

(To be concluded.)

Architectural Causerie: The Chippendales

IN the popular estimation there is only one Chippendale, and that is he who was considered by a Continental authority to be "the most complete master of Baroque in Europe." Had this eminent authority studied Meissonier's plates he would not have been so lavish in his praise, for Chippendale II. had recourse both to Marot and Meissonier: therefore the cabinet-maker's assertion, "In executing many of the drawings, my pencil has but faintly copied out these images that my fancy suggested," is not strictly substantive of his originality. Chippendale, in view of this, should be renamed "Cabinet-maker and Adapter of Other People's Fancies." Adaptation, after all, is not direct plagiarism, and, like the Lacedæmonians, the skilful manipulator of the gouge and chisel had the ability to conceal the source of his inspiration from the nobility and gentry who frequented No. 60 St. Martin's Lane.

* * *

This week's chit chat does not aim at more than a hypothetical sketch of the lives of the Chippendales; the name is sufficiently rare to be uncommon. It does, however, attempt to turn the lantern towards a reputed home of one of the Chippendales, which stands on the outskirts of Uxbridge, fifteen miles from town.

* * *

The skilled craftsman of the Georgian era was not considered to be worthy of recognition in the public Press unless his name appeared in the list of Bankrupts or in the obituary notices of the month; he remained obscure. He might be allowed to pass as an upright creature. Maybe he was respected as an overseer of the parish or a common councilman, but the fact that he kept a shop and was not ashamed of a shop keeping him placed the artist in wood, metal, or leather in a certain groove out of which he could seldom escape. The comparative obscurity of the eighteenth-century tradesman accounts for the fact that so little is known regarding the life of the famous cabinet-maker whose wares to-day are sold for fabulous sums each time the hammer is raised at Christie's.

Thomas Chippendale I.

At the close of the seventeenth century there dwelt in the ancient city of Worcester a carver and gilder well skilled in the making of frames to enclose the canvas productions of Lely and his contemporaries at the request of the local gentry. We can imagine this intelligent countryman, whose chisel had a neat turn, seizing upon every idea and design in which ornament figured in order to further his craft and to bring his personal attainments to fruition. Chippendale the first in time took to himself a wife, and begat Chippendale the second, who received sufficient instruction at the hands of the local pedagogue to enable him in after years to produce the "Gentleman and Cabinet-maker's Director." It is conceivable that the father took this youth from school at an early age in order to train him in the mysteries of joinery, and to observe more closely his growing fancy for the carver's tools. Be this as it was, both father and son in time felt the pull of the metropolitan magnet, so they forsook the precincts of Worcester Cathedral, and made their way through Oxford and Uxbridge, escaping unnoticed by MacHeath's gang, and so settled in town by the end of seventeen hundred and twenty-six.

* * *

Chippendale the first looked for a little shop in order to set up business, where we are not told, in all probability near the Stone of Seven Facets. How father and son worked in those early days is evidenced by the fact that the grand gentlemen and the hooped ladies of George the First's Court, both native and imported, shown in the woodcuts of the day, flocked to the joiner's shop to witness the industry and taste of the firm whose attractive name seemed to smack of walnut and mahogany without the taint of glue and splinters. There can be no doubt that while my Lord Burlington posed as the patron of the arts in Piccadilly the Chippendales, I. and II., were making history, not only as producers of carved frames for Kneller's and Hogarth's canvases, but as cabinet-makers of the first of the five orders of that craft.

Chippendale II.

Chippendale the first in due course passes away. We do not know whether the son, moved by filial respect or Chinese inclination, prepared the oak shell and embellished it; nor do we know where the father lies buried. There is a gap of some years between the death of the senior partner and Christmas seventeen hundred and forty-nine, when Chippendale the second ventured to rent a shop in Conduit Street, Long Acre. By this time Thomas Chippendale, about whom the whole romance of modern cabinet-making turns, had a large circle of fashionable clients. Every Sunday he marched off to St. Martin's-in-the-Fields to listen to the doctrines of the learned Oxford divine who officiated. By the blessings of good fortune his trade increased so rapidly that he had difficulty in marshalling the half-dozen or so apple-cheeked and "crop-eared" apprentices from Worcestershire, who were forced to accompany their master each Sunday. Mrs. Chippendale, *née* Catherine Redshaw, of the parish of St. Martin's-in-the-Fields, had been married to Thomas on May 19 in the year seventeen hundred and forty-eight, and this estimable lady was doubtless well fitted to look after the creature comforts of the budding joiners.

* * *

Business continuing to increase, Thomas next proceeded to make chairs and tables in St. Martin's Lane; for in the year seventeen hundred and fifty-three he removed to No. 60; soon after he was compelled by press of work to take over three houses adjoining his own, and evidently found the expenses overwhelming, for he made an appeal two years later against his rating assessment.

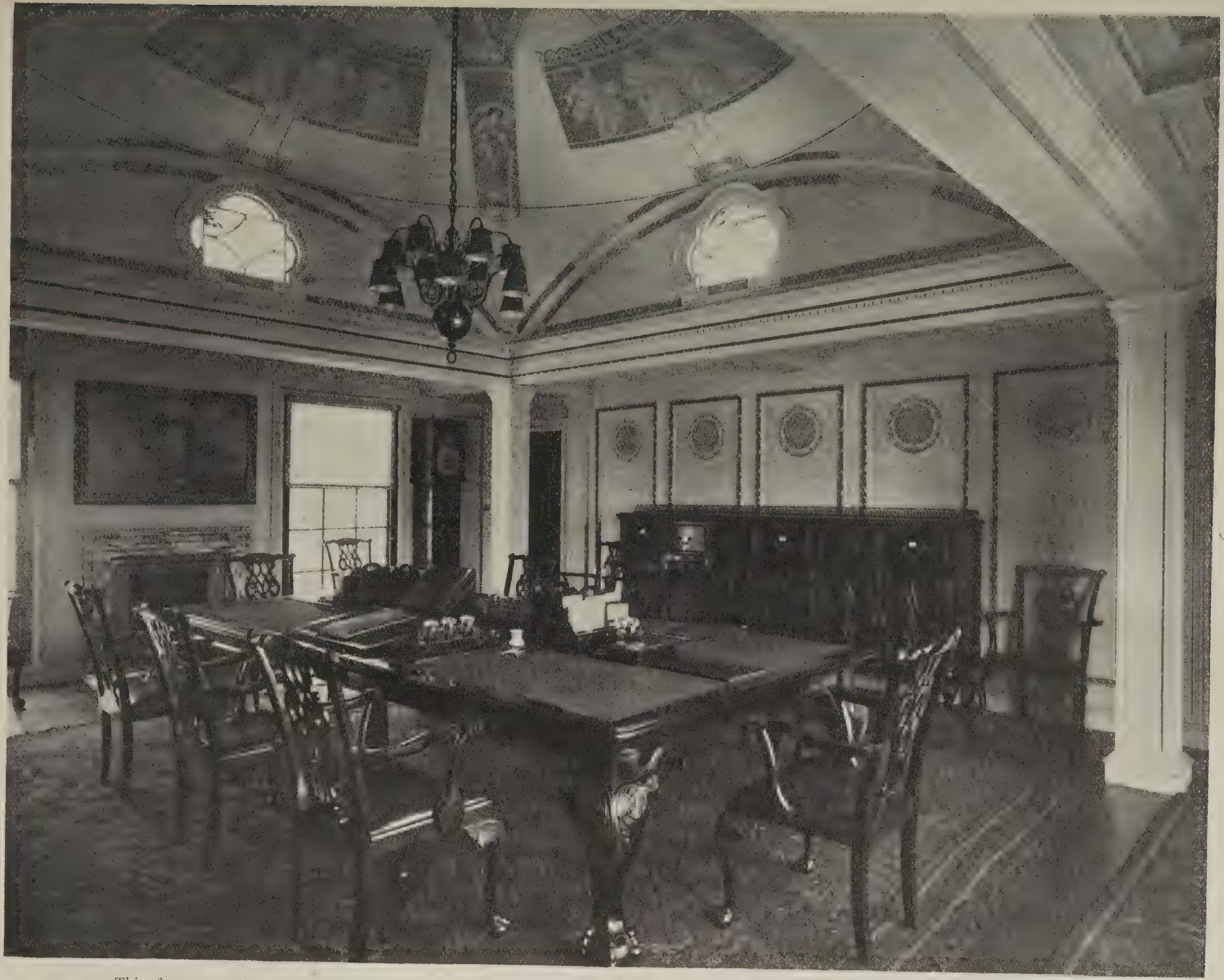
A Picture of Chippendale's Shop

No. 60 St. Martin's Lane at this time was the finest shop of its kind in London. The cabinet-maker who ran the business had blossomed into a superior artist, who, from the screened recesses of the inner parlour, could keep an eye on the clients whose sedan chairs brought them to the shop with commissions. He could refer to books at hand in the open shelving, including Isaac Ware's Palladio, Marot's engravings, and Meissonier's flights of fancy. In a corner stood the iron safe with the brass handles. Conveniently placed was the mahogany drawing-table, with the revolving shelf for the plated candlesticks; also the shagreen case of brass drawing instruments and the finely-pointed brass pen for drawing straight lines. We can imagine the drawer containing sheets of hand-made paper, the ledgers with the brass clasps, the medley of loose sketches for furniture, mirrors, and girandoles suitable for peers, baronets, and aldermen, who, like Sir Thrifty of Coleman Street, or Sir Charles Aisgill of Lombard Street, had a taste for mahogany, sherry, and Oporto. Next week I shall have something to say about Thomas Chippendale III.

AERO.

# of South America, Moorgate Street: The Board Room

Dunn and Watson, FF.R.I.B.A., Architects



This fine room is situated on the top floor of the building (of which some other views were given in our last issue). The walls are of plaster with enriched plaster mouldings, the dome being of concrete with paintings by Mr. G. W. Murray. The lunettes are of alabaster and the doors of carved mahogany.

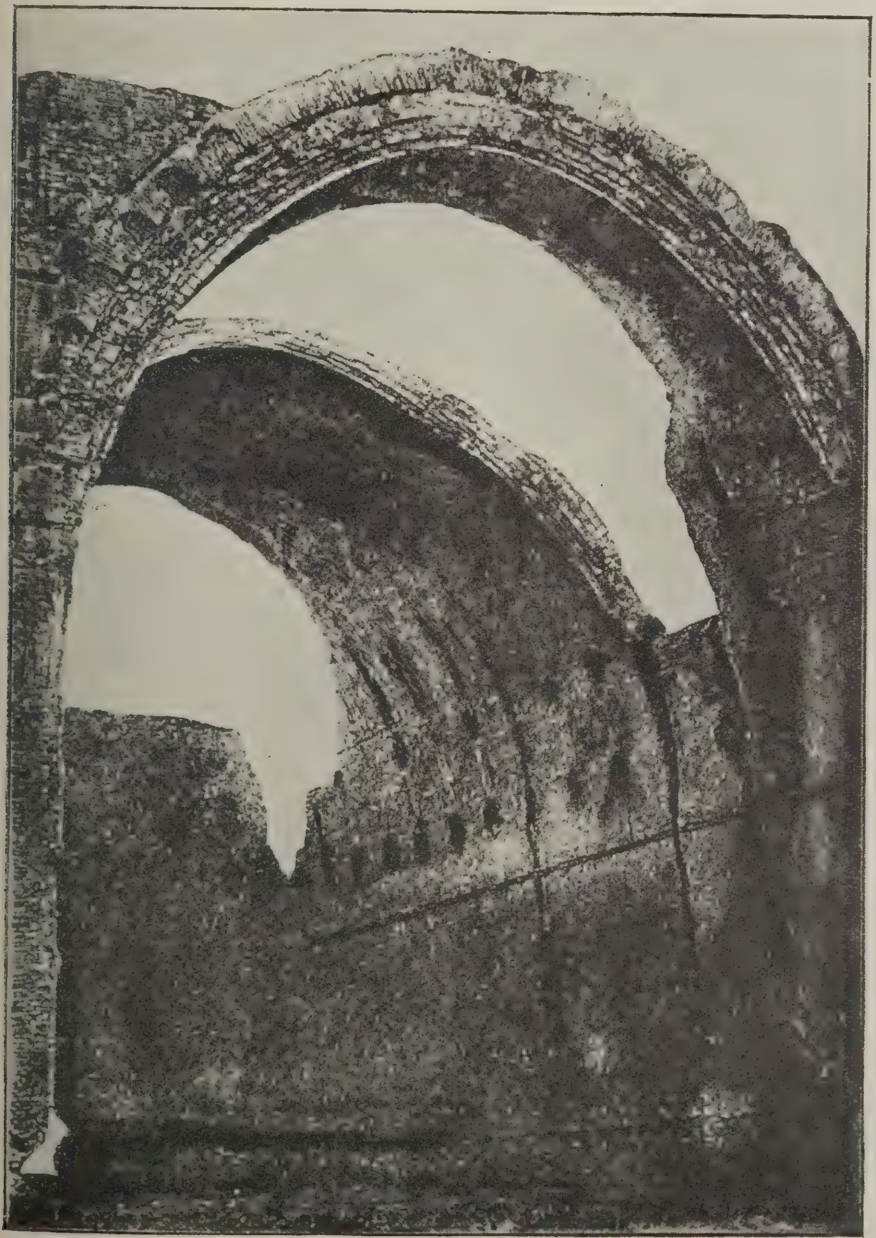
The Palace of the Chosroes, Ctesiphon[*]

By E. P. WARREN, F.S.A., F.R.I.B.A.

AT the present moment, when the political fate and future governance of Mesopotamia are matters of anxious speculation, it may seem rash for a mere artist to offer his impression of a short visit to that land of the rivers, whose plains have, from time immemorial, witnessed the advent of so many successive invasions—Assyrian, Persian, Greek, Roman, Arab, and Turkish—and whose history rings with the fateful clamours of the rise and fall of so many great and powerful dynasties, Assyrian, Babylonian, and Sassanian.

It is, however, to the visual aspect of existing things, and the architectural vestiges of Mesopotamian history, that I venture to invite your attention, and I should perhaps explain at the outset that my tour in that country was undertaken without the least reference to its architecture or archæology. My task was to inspect those sad vestiges of the war—our military cemeteries, to report upon them, and advise as to their permanent form. This task, however, and happily for me, implied travelling over a great deal of this most interesting land, and visiting not only its principal towns, but spending some time near many of its ancient and notably historic sites. I had, however, very little leisure, and therefore have to ask your indulgence, if what I have to show and describe to you, together with my comments and impressions, are somewhat superficial.

Not far above Kut, and after various halts, I saw with some excitement, in the distance, on the dead flat of the left bank, the startling silhouette of Ctesiphon Arch, the sorry remnant of the great Palace of the Chosroes. The greater part of the façade, the arch of the great hall, and the fronts of its wings, were intact. Mr. Phené Spiers, in his account of Sassanian architecture, says that the right hand, or north-eastern wing, was blown down in 1890.



REMAINS OF THE GREAT VAULT OF THE PALACE OF CHOSROES, CTESIPHON.

There was almost no brick débris on the ground when I visited the ruins, but much indubitable Ctesiphon brick in village walls, culverts, and the tombs of a neighbouring native cemetery. However, during the ages that have succeeded the sack and ruin of Ctesiphon—a large town with extended walls and many buildings—similar bricks were probably to be had for the mere getting.

All along the base of the left or S.W. wing, which alone remains, the bricks for a depth of about a foot—and they are mostly about 12 in. square by about 2½ in. to 3 in. thick—have been picked out.

The bricks are of a quiet red colour, much like some of our seventeenth-century bricks, and with a similar rough face—very hard, admirably burnt, and set in very strong cement.

The palace was built by Chosroes I. Fergusson gives the date as about 550 A.D., and since the first Chosroes' reign was from 531 to 579, that is probably about right.

The great vaulted hall was about 160 ft. long by 83 to 84 ft. wide, and vaulted with a roughly elliptical barrel vault 95 ft. high to the crown of the arch.

The total width of the palace front was about 312 ft., its height probably 110 ft.

The side walls of the hall I found to be 23 ft. thick. The remaining front wall is about 16 ft. thick. The great arched entrance of the hall appears to have been always open. It is conjectured that it was screened by a great curtain, which I can hardly believe.

It seems to me that the hall, facing east by south as it does, could only be penetrated to the rear end by the low early morning sun, and its builders were sun-worshippers, so that the first rays of the rising sun would be welcome. During the hot weather, and after early morning, almost the whole of the interior would be in shade; a great part of it was so when I took my photograph at about 11 o'clock on December 31.

As the hall probably served not only as a magnificent vestibule to the various large chambers of the Palace, but as a hall of audience and for feasting, the necessity of shade under the fierce sun of Mesopotamia is obvious.

The purpose of the ten side chambers, about 80 ft. long by 20 ft. wide, and the method of lighting and ventilating them, is a matter for conjecture. They may have been guard rooms, treasure rooms, or sleeping chambers—for the winter, or even prisons, some of them may have contained the staircases leading to the upper floors. They have now entirely disappeared, and it is only the bonding of their walls to the outer hall walls, and their foundations that indicate their form.

The much-arcaded front has no window openings, it is a mere dead façade of imitative Roman design.

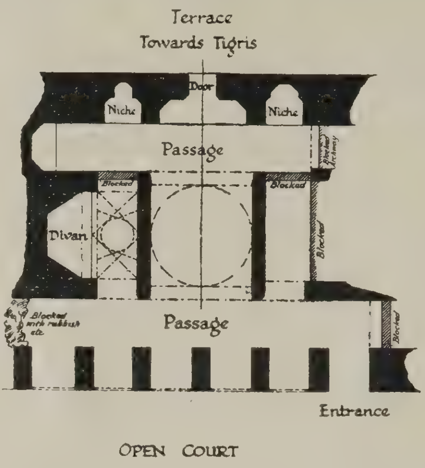
The construction of the great vault is very interesting and affords a fine yield of conjecture as to the methods employed in building it. It must be remembered that timber of a kind or of lengths sufficient for scaffolding in the Western way, and of planks for centering, were probably impossible to obtain. It is therefore extremely probable that, as has been conjectured by several authorities, it was built without anything that we should call centering.

---

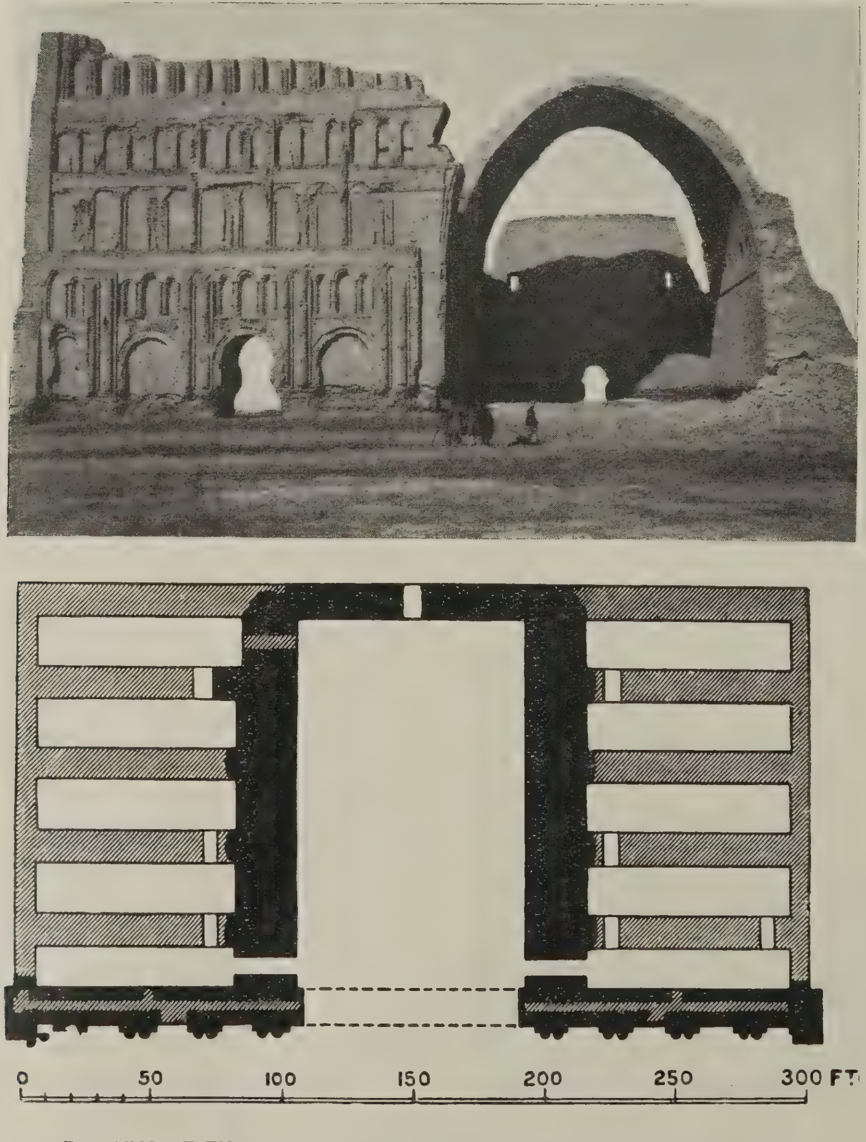
[*] Extracts from a lecture at the R.I B.A. on Wednesday evening last.

M. Dieulafoy's section shows that the arch rings all incline towards the inner or N.W. end of the hall, though, according to my own observation, he makes the angle of inclination much too acute. The fact that the rings do incline leads inevitably to the supposition that the thick-end wall was first built, and that each succeeding ring leaning back against its predecessor received so much support that centering, in the strict sense, could be, and was, dispensed with.

You will notice, however, the six parallel rows of holes on each side of the vault. These have given rise to much conjecture. Mr. Phené Spiers thinks they were holes to admit the chains suspending lamps, as it is stated that in the sack of the Palace in A.D. 637 some one hundred silver lamps were amongst the booty. The fact that several, though by no means all, of these holes contain earthenware tubes lends colour to this. My own conjecture is that, whatever their subsequent use, they may have been originally the holes into which scaffold poles were fixed, "punnet holes," as we call them, and their regularity of spacing horizontally and vertically abets this view. Scaffolding of some sort there must have been, and this quite probably consisted of palm stems, which are still occasionally used for this purpose, and for rough bridges, etc., in Mesopotamia. These could hardly exceed from 35 ft. to 40 ft. in length, and would need stiffening by a good deal of cross-bracing, but it seems to me extremely likely that the vault was stayed from the scaffolding, without centering, and that the admirable quality of the cement used with this assistance secured the process of building.



THE "SERDAB," OR SUMMER CHAMBER, BAGHDAD.



REMAINS OF THE PALACE OF CHOSROES, WITH CONJECTURAL PLAN.

The Persians of the Sassanian dynasty, if they did not employ Arab workmen, as they probably did at Ctesiphon, most likely relied to a great extent, as do the Arab builders of to-day, on the wonderful sticking power of their cement.

The Serdab, or Summer Chamber, is a typical Mesopotamian institution. It exists in Egypt, and I expect in Syria, and probably in Arabia generally.

Most houses of any size or consideration seem to have one. It is usually semi-subterranean, its floor 5 ft. to 6 ft. below that of the ground floor, and its few windows facing the east or north, a little above ground level. It is frequently, in modern instances at any rate, provided with a wide, shallow, ventilating flue, carried up above roof as a chimney, and terminating in a little dome or roof. The opening in the Serdab to these flues is frequently a pretty little brick arch of a cusped shape rather gothic in effect.

Following upon Mr. Warren's paper, Mr. R. I. Murray delivered a short address upon some engineering works in Mesopotamia, and Mr. Lionel Muirhead, many of whose water-colours of Mesopotamia were on the walls, gave some account of the subjects represented.

Brigadier-General Scott-Moncrieff then moved a vote of thanks to Mr. Warren, which was seconded by Sir William Goscombe-John.

The chair was occupied by Mr. Walter Cave, vice-president.

Book Notice

A New Book on Water Supply.

Under the title, "A Practical Guide for the Water Supply of Towns, Estates, Villages, Houses, etc.," Messrs. Hayward, Tyler and Co., Ltd., the well-known hydraulic and sanitary engineers, have published a very compact little handbook, which contains a good deal of new matter, and much information of importance to practical men, in a more readily accessible form for reference than has hitherto been the case.

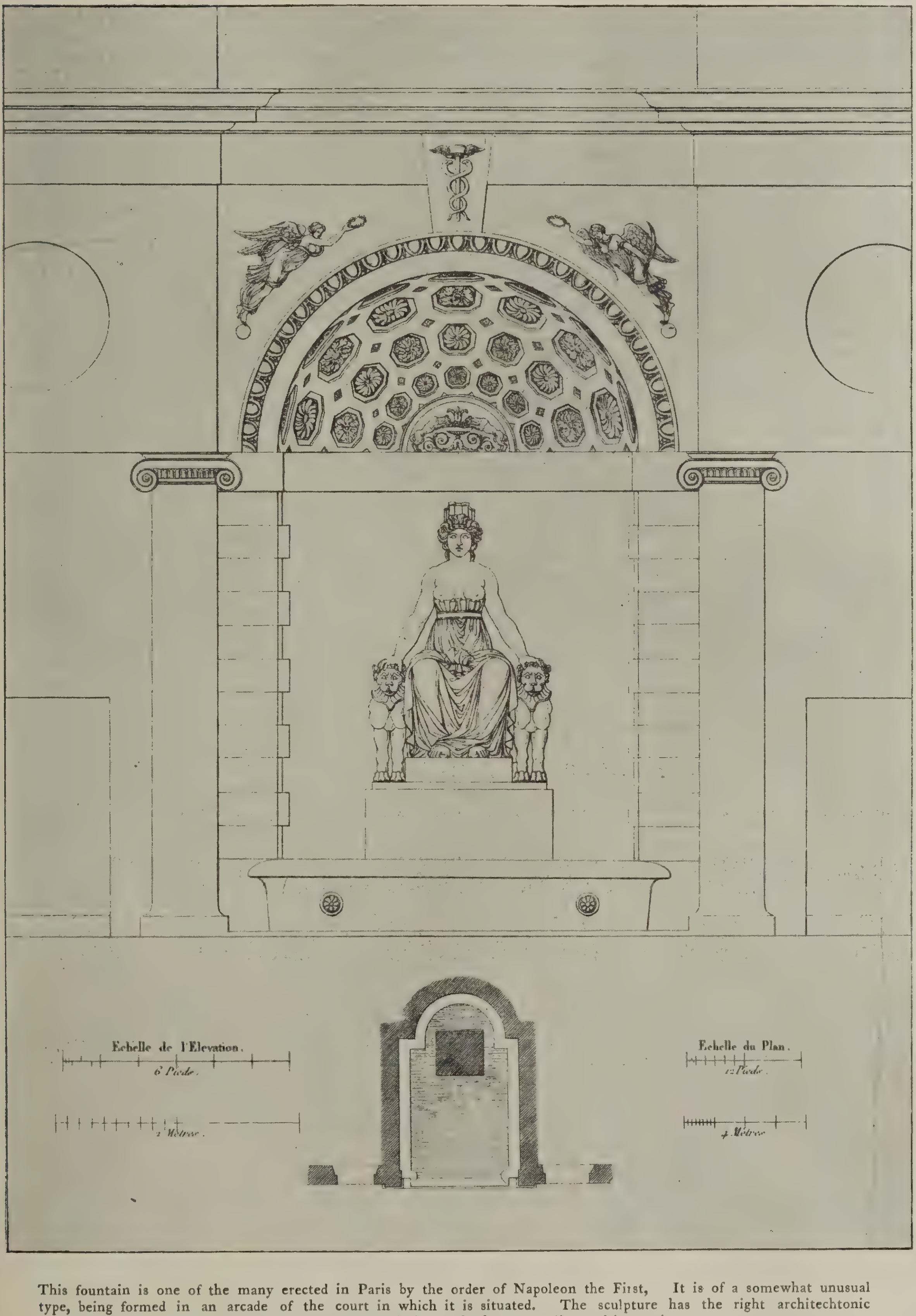
The work, which is priced at 3s. 6d., and is copiously illustrated, covers the subject of water supply in a concise yet comprehensive manner, and deals with just those points upon which architects, estate agents, district surveyors, and property owners often find themselves in need of guidance.

It is stated in the introduction that the information contained in the subsequent pages embodies the results of many years' experience in answering enquiries from practical men relating to water supply for public as well as private purposes, and since the facts set forth are based on the wide knowledge gained by the company's engineers in the carrying out of innumerable installations both at home and abroad, the value of the handbook hardly requires to be emphasised.

As far as possible the information has been presented in a tabular form in preference to formulæ, and several of the numerous tables contained in the volume, while based on well-known rules, are new.

Fountains. 5.—Fontaine de la Cour Batave, Rue St. Denis, Paris

Sobre and Happe, Architects. Augé, Sculptor



This fountain is one of the many erected in Paris by the order of Napoleon the First, It is of a somewhat unusual type, being formed in an arcade of the court in which it is situated. The sculpture has the right architechtonic feeling, and accords admirably with the severe lines of its setting.

Securing Impermeability in Concrete*

By EWART S. ANDREWS, B.Sc.(Eng.)

SOME time ago the Council thought it desirable, in view of the great importance of the subject to the members of the Institute and to the profession generally, to issue a report. The Reinforced Concrete Practice Committee, upon whom devolved the task of preparing the report, came to the conclusion that it would be a good plan to persuade one of their members to read a paper upon the subject in order that the information given in the paper and produced in the discussion could form the nucleus of their deliberations.

There is no doubt that one of the best ways to make concrete impermeable is to grade and mix it properly. Careful experiments have shown that concrete can be made waterproof without the addition of waterproofing compounds. If the energy spent in preparing and applying these compounds were expended on careful proportioning, mixing, and supervision in making the concrete, the engineer would obtain just as good results, probably at less cost. This applies particularly to the case in which, as in reinforced concrete, for purposes of strength it is desirable to employ a concrete comparatively rich in cement.

With any given aggregate it is possible to determine by simple experiments the proportion of mix to give the densest concrete. The densest concrete will also be the strongest and the least permeable concrete. Instead of employing comparatively expensive materials to fill up the holes in the concrete we should endeavour to prevent the production of such holes.

The cause of leakage in concrete structures may be due to the development of actual cracks in the concrete, and no amount of doctoring the concrete can remedy the trouble caused by cracks. Although it is true that many such cracks can be attributed to failure on the part of the designer to provide adequate reinforcement to carry tensile stresses, the principal cause of this difficulty is the contraction of the concrete in setting. On large structures it appears to be practically impossible to avoid such cracks, and the wisest plan is to induce them at specified places by the adoption of contraction joints—often referred to as expansion joints.

Cracks in Concrete

In connection with the question of cracks in concrete, we should remember that if steel reinforcement is designed to be stressed to 16,000 lb. per sq. in., the tensile stresses on the surrounding concrete, based upon the usual theory, will be not less than 1,000 lb. per sq. in.; and this is in excess of the tensile strength of the concrete, so that cracks are practically certain to occur.

One of the difficulties in coming to practical conclusions on this subject is that so many of the data are based upon tests made under laboratory conditions, and we have to decide as to how far we are to be guided in practice by the results of these tests.

The trend of the evidence appears to be that if great care is taken in the grading, mixing, and placing of the concrete, a voidless concrete can be obtained, and that such concrete is as good as, if not better than, that obtained with the special preparations. Some of the advocates of these special preparations argue in their persuasive literature that in practice it is impossible to exercise the great care necessary for this result, and that therefore some special treatment is necessary. Such statements are often supported by experimental test results made by engineers of unimpeachable standing, and showing that an increased strength results from the use of the particular material. But the argument against laboratory conditions is a boomerang which may come back on the thrower. The test results obtained with special preparations are also made under laboratory conditions, and in the case of integral mixtures it may be assumed that the added materials will be more thoroughly mixed with the concrete than can be assumed to occur in practice; if these materials are not uniformly mixed with the concrete in actual practice, as seems probable, it is at least doubtful if their effect will be as good as can be obtained in laboratory tests.

The "Crystalline" School

According to the "crystalline" school, led by Professor H. le Chatelier, "the anhydrous compounds of cements give rise to the formation of a super-saturated solution from which the hydrated compound may readily crystallise. The liquid, being no longer saturated, can re-dissolve more of the anhydrous compounds, and the whole mass can thus crystallise progressively by passing through a stage of transitory dissolution in a limited volume of water, which at any given moment cannot maintain in solution more than a small portion of the total mass of salts present. The crystals, which are deposited from the super-saturated solutions, always appear in the shape of extremely elongated needles, which have a tendency to group themselves in spherolites about certain centres of crystallisation. The entanglement of all these crystals is the only cause of the solidity of the mass. They become welded with one another when the reciprocal orientation is suitable; they adhere by simple contact, as do all solid bodies when really resting upon one another. Finally, friction at the points of contact, even in the absence of all adhesion, suffices to produce a great strength of mechanical resistance, such as is found in all tissues and fabrics, whose solidity has no other origin."

The following summary of the colloid theory was given by Dr. Desch in the discussion:

"The alternative or colloid theory was first proposed by W. Michaelis in 1893; on this theory, while the chemical reactions assumed are those which were shown by le Chatelier to take place, the physical conditions are supposed to be different.

"The hydrated metasilicate is considered to form, not a mass of radiating crystals, but a gelatinous mass or gel, the gradual dehydration of which brings about the hardening of the cement with time. The aluminate crystallises much more readily than the silicate; but even this is regarded as forming a gel when the solution is sufficiently super-saturated—that is, when the quantity of water is small, as is the case in the practical utilisation of cement.

"The presence of gelatinous material at an early stage of the setting process is readily observed. It has been photographed by Stern, and the increase of size of the cement particles by absorption of water and consequent swelling of the gelatinous sheath which forms around them has been described by Ambronn and may be readily confirmed. According to Colony, a reaction subsequently takes place between this early gelatinous material and the remaining constituents of the cement, and a secondary amorphous product is formed, the desiccation of which is the cause of the hardening. At a later stage, crystals of calcium hydroxide, calcite, and zeolites make their appearance.

"An attempt to distinguish between the various possible colloidal products has been made by Keisermann, using the method of staining with organic dyes. The results indicate that the gelatinous sheath consists of calcium metasilicates, which compound also occurs in the form of small needles, whilst the calcium hydroxide and aluminate assume the crystalline form. These staining results with colloids depend largely on the concentrations of the substances concerned, and the writer, possibly not working under precisely similar conditions, has not succeeded in confirming all of Keisermann's results. The dependence of the observations on the size of grain has been pointed out by Wetzel. Other experiments, in which stains were used, led Blumenthal to the conclusion that 'the metasilicate and aluminate were first formed in a crystalline condition, so that the cement set like plaster, but that a colloidal gelatinous silicate was subsequently formed, and strengthened the mass by binding the crystals together and filling the pores.'"

Colloid Action

This question of colloid action is of importance in relation to impermeability if, as some people suggest, it would result in a more plastic material less liable to cracking, but it appears to the author that this question of yield or plasticity can be investigated as a fact apart from the theory of colloids.

If the addition of certain materials to the concrete renders it more plastic, then a test specimen would show greater strain before fracture by tension than will occur without such material. The cause of cracking in concrete, which probably gives rise to much of the permeability troubles, is failure to contract without fracture. It is therefore suggested that the question should be tested by measuring the extension before fracture of tension specimens made from concrete treated by the various processes.

It is well known that permeability tests upon concrete made upon small specimens are likely to give more favourable results than one is likely to obtain with larger structures in practice, and that microscopic cracks in the specimen may prevent percolation by water, whereas water would find its way through the correspondingly larger cracks in larger models. The author therefore suggests that in testing small specimens for permeability one should employ a liquid known to find its way more easily through the smallest voids, and he would suggest also that if any standard permeability test be devised, a liquid such as petrol should be employed for the purpose.

---

* Extracts from a paper read before the Concrete Institute.

We have seen from our previous considerations that with the requisite care in grading, mixing and placing, it is possible to obtain a practically impermeable concrete. The author has no doubt, from the large number of recorded experiences of engineers which he has studied, that in practice the addition of certain materials to the concrete gives better results than had previously been obtained under the ordinary practical conditions.

From the practical point of view, therefore, we have to decide whether it costs less to exert the meticulous care in grading and supervision than to add these special preparations. This will depend to some extent upon the nature of the structure and the strength of the concrete required to resist the forces acting upon it. In reinforced concrete structures we require a concrete of such strength that we must have the amount of cement which, if properly graded and mixed, will give us a practically impermeable concrete. In other cases such strength may not be called for, and it may prove cheaper to employ an inert void-filling material than to add more cement.

Possibilities in Brickwork*

By Nathaniel Lloyd, O.B.E.

BRICK has been defined as "a factitious building stone, made from the silicates of alumina and hardened by heat," but in plain English brick is burned clay. There are three ways of burning: In the sun, in kilns, and in built-up masses by fuel mixed with the clay of which the bricks are formed. The last method is largely used in this country, and little, if at all, on the Continent.

The Egyptians made their bricks of clay mixed with straw and baked in the sun. This answered in Egypt and countries where there was little or no rain. In the second century Agis, besieging Mantinea, turned the course of the river against the walls of that town and dissolved them "because they were made of crude brick," which, as the ancient historian says, "truly is safer against the shock of military engines than either burnt brick or stone, for these get broken." We may gather from this what progress the science of fortification had made so long as 1,800 years ago.

The earliest mention we have of bricks is in Genesis xi., 3, say, upwards of four thousand years ago, when the Tower of Babel was projected, and we read: "Let us make bricks and burn them thoroughly." And they had bricks for stone, slime had they for mortar. (Slime was bitumen.) In Samuel II., xii., 31, we read: "David made the children of Ammon to pass through the brick-kiln." That would be 3,000 years ago.

Roman bricks were long and thin, were made in the same way as and resembled our paving tiles. In the south wall of the chancel of St. Martin's Church, Canterbury, I have measured a number of these Roman tile-bricks up to 22 in. in length, varying in thickness from 1 in. to 1¾ in., and laid with very thick joints, four courses rising 14½ in. Most Italian buildings are built of brick (the Florentine brick measures about 12 in. x 6 in. x 1½ in.), overlaid with marble ¼ in. to 1 in. thick. In Northern Italy terra-cotta ornaments are used architecturally, but these are not to be confused with bricks.

The Romans introduced their method of brickmaking into this country, but, after they left, the art appears to have died out, and we do not find bricks again until mediæval times. The earliest of these are stated to be those at Little Wenham Hall, of the thirteenth century. During the fourteenth, fifteenth, and sixteenth centuries, brickmaking in this country was popularised and influenced by refugees from the Low Countries and France, who settled here, and not only reintroduced the art, but made a strong impression upon local architecture. The Low Countries are the home of modern brickwork.

I cannot now enter into the complexities of sizes of bricks, which have varied from Egyptian bricks, measuring 16½ in. x 8½ in. x 5½ in., equal to a cube of 771 in. to tiny Dutch bricks measuring 5 in. x 2½ in. x 1¼ in., or equal to a cube of 16 in. Say relative proportions of 48 to 1.

Now, my object in coming here is to show you a number of ways in which one may use bricks, and I propose to commence with examples of simple projections and to pass from them gradually to more elaborate treatment in mouldings and ornament. I hesitate to use the word ornament because it is a discredited word. In almost any town one sees buildings exhibiting the misuse of ornament. Some years ago large quantities of moulded brick and terra-cotta were produced by manufacturers and stocked by builders' merchants for incorporation by builders as strings, copings, cornices, finials, and panels. I believe the free use of this rubbish had the effect of prejudicing the use of the right kind of brickwork, so that it went out of fashion. I should rejoice to see a revival of the right use of brick mouldings, etc.

May I suggest the importance of avoiding excessive projections, of using mouldings as sparingly as if stone were the medium, and the exercise of great caution in employing ornamental details? I hesitate to say which of these three matters is the most important, but, perhaps, too great or insufficient projection is the commonest stumbling-block. In ordinary three-storey buildings one finds examples where it is right to provide 4-in. projections to pilasters, but many more need only 2 in. Raised panels may be raised 2 in., but more frequently 1 in., drifting to blocks at quoins seldom more than 1 in., apron pieces 1 in. or less, but all depending upon the scale of the building. One and a half-inch projection each course in corbelling is about the limit, and often much less will be necessary.

The fifty slides illustrating this lecture include examples of simple and moulded projections, bonds, copings, pediments, various stages of brick-cutting, cornices, doorways, complete orders in brick, steps, chimneys, plaster on brick mouldings, gauged work, rubbed work, windows, fireplaces, tracery, and brick carving. By means of these I have endeavoured to show some of the ways—the many ways—in which brick can be used. Of colour I cannot give examples, but may remind you what a wealth of variety is available. You may recollect that last year I spoke of the importance of choosing bricks having texture, and suggested that, as bricklayers are in the habit of laying the smoothest side of each brick outwards, they might as easily expose that having the best texture. There would be no more delay in doing one rather than the other.

At the present time, when bricklayers are limiting their output to some 350 bricks daily, it is found here and there that concrete blocks (made and handled largely by unskilled labour) have slightly reduced building costs. Bricklayers might easily lay four times the number of bricks they now lay daily, when brick would once more be found the cheapest of all building materials.

I maintain, not merely that there is no building material that can compete with brick, but that there is none that can approach it. Its components are obtainable everywhere; it is warm, light, has texture, has a greater variety of colour than any other material, weathers for centuries, improving meantime; can be moulded, rubbed, cut, and carved, and, finally, it responds to and rewards a thousandfold the care and forethought of the user, if he be sufficiently an artist to appreciate its wonderful qualities.

The president, Mr. C. S. Errington, in calling upon Mr. W. T. Jones, F.S.A., Durham, to propose a vote of thanks to Mr. Lloyd, referred to the fact that the popular local view of brick was that it was a cheap material, and was only to be used when stone could not be afforded. He referred to the desirability of enlightening public opinion on this, and spoke of the beautiful effects which can be got from properly selected brickwork. He thought local bricks were of a bad quality from the artistic point of view, and that they were too thick, being often about 3½ in.

Mr. Jones, in moving the vote of thanks to Mr. Lloyd, agreed that local bricks were bad. He thought they were too hard and too brittle to cut, and had found by experience that they would not stand frost well, particularly on gable copings. He thought it was undesirable to import bricks from other districts, as they did not harmonise with the colour of the locality.

Mr. G. T. Brown seconded the vote of thanks and spoke of the good work which Mr. Lloyd was doing in drawing the attention of architects and the public generally to the small points in such things as brickwork and design, as in the last lecture, which made all the difference between satisfactory and unsatisfactory artistic results. He also emphasised the advantages that are to be obtained from the combined use of tiles with brickwork to provide the fillets necessary in arranging simple mouldings.

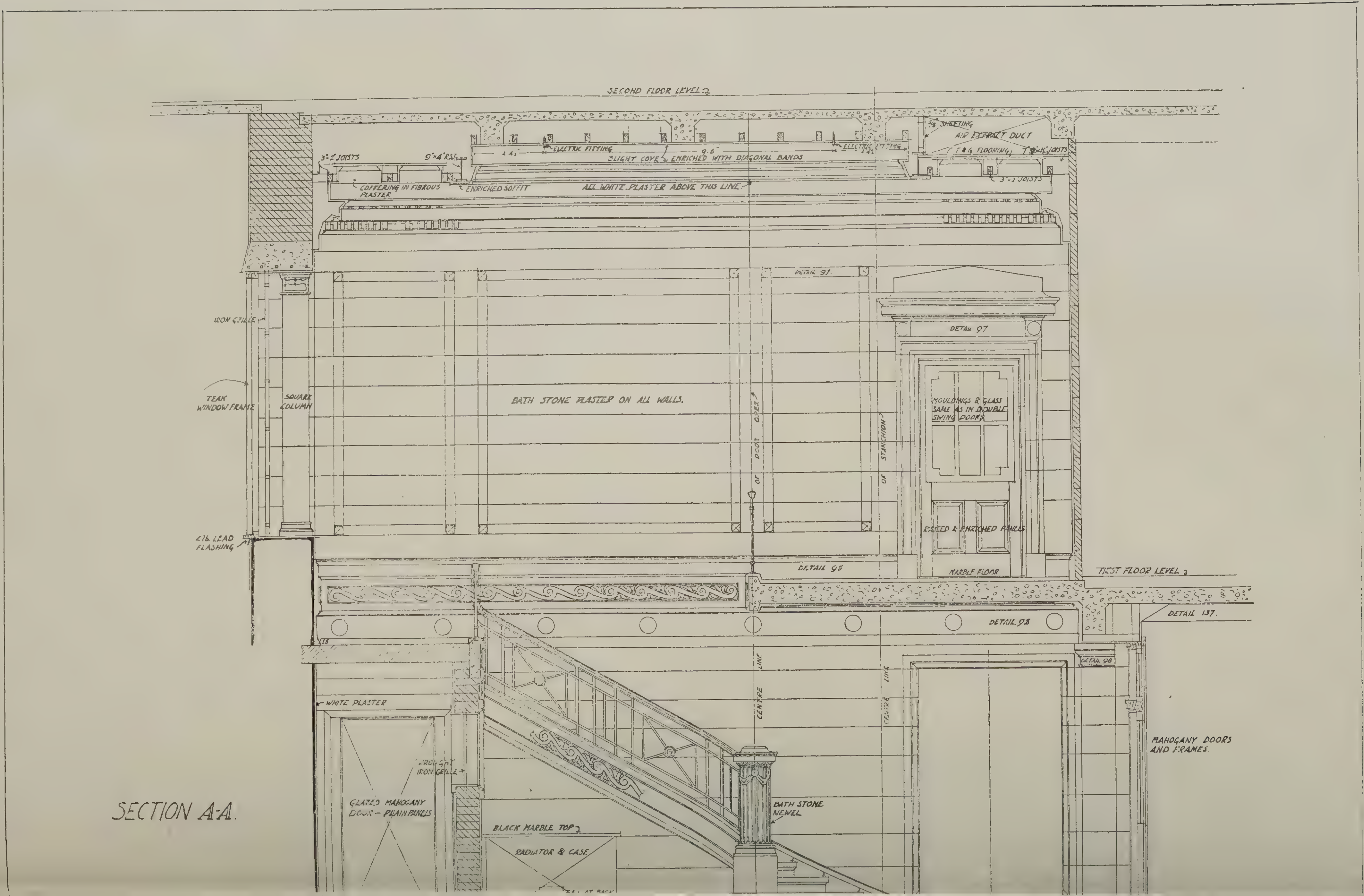
In reply Mr. Lloyd thanked the Association for their kind acceptance of his paper and regretted that the term "Bricks and Mortar" had almost become an expression of contempt. He referred to the very great importance of little things which in the aggregate made big things and the fact that it was "how" materials were used that should be regarded as much more important than "what" materials or facilities were available.

---

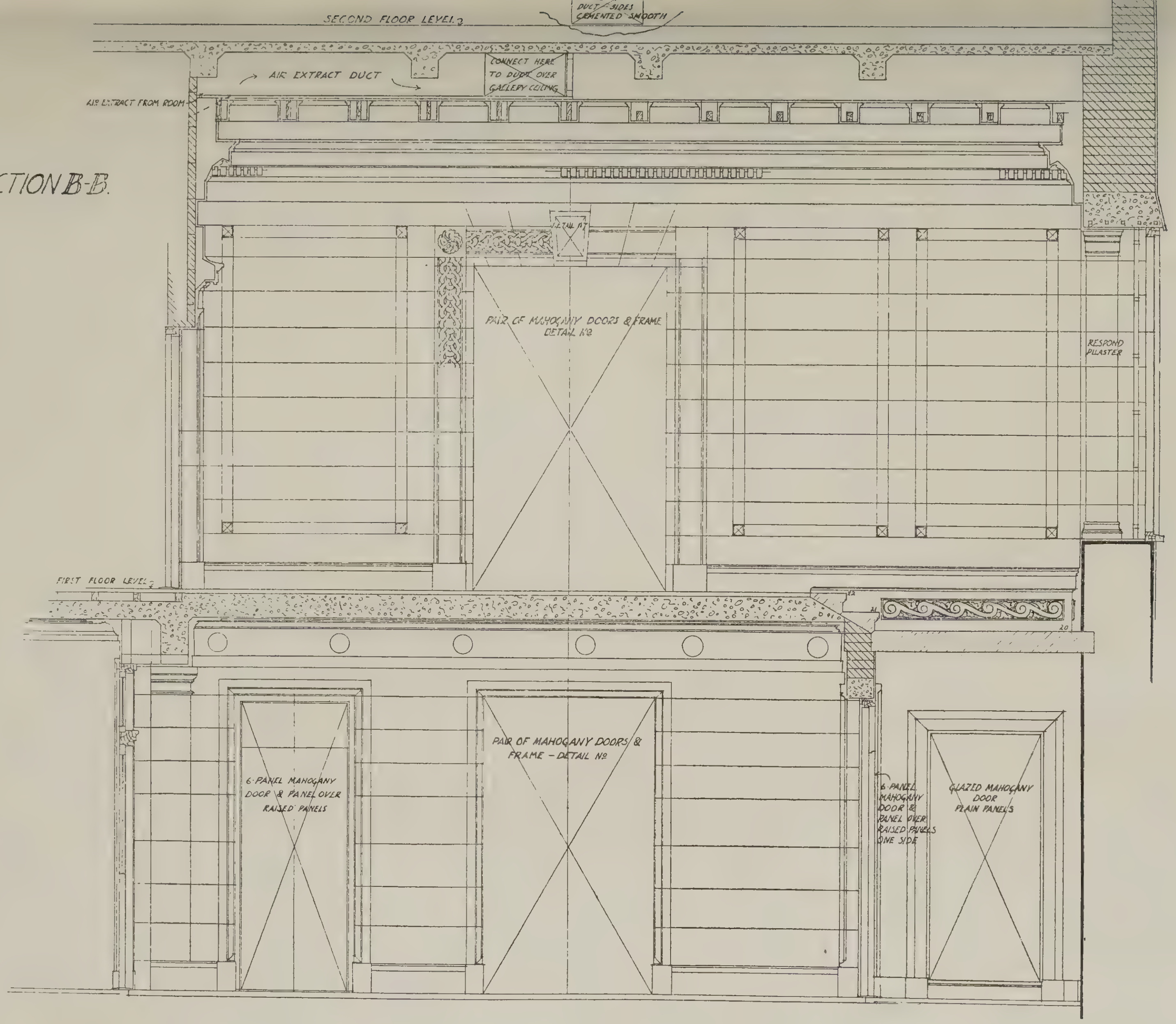
* A lecture delivered before the Northern Architectural Association at Newcastle-on-Tyne.

Architects' Working Drawings. 29.—Munster and Leinster Bank, Cork : Detail of Staircase Hall

Arthur and Henry H. Hill, FF.R.I.B.A., Architects



SECTION B-B.


SECOND FLOOR LEVEL
DUCT SIDES CEMENTED SMOOTH
CONNECT HERE TO DUCT OVER GALLERY CEILING
AIR EXTRACT DUCT
AIR EXTRACT FROM ROOM
DETAIL No
PAIR OF MAHOGANY DOORS & FRAME DETAIL No
RESPOND PILASTER
FIRST FLOOR LEVEL
6-PANEL MAHOGANY DOOR & PANEL OVER RAISED PANELS
PAIR OF MAHOGANY DOORS & FRAME – DETAIL No
6 PANEL MAHOGANY DOOR & PANEL OVER RAISED PANELS ONE SIDE
GLAZED MAHOGANY DOOR PLAIN PANELS

This instructive detail, showing two sections through the staircase hall, should be studied in conjunction with the plan of the bank, reproduced on page 248 of last week's issue.

Correspondence

The Architect's Assistant

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I wish through your columns to ask the Secretary of the R.I.B.A. whether the Institute's scale of fees allows for a salary of £6 6s. per week for the architect's assistant. By assistant I mean the draughtsman who, week after week, month after month, year after year, is kept very busy making working drawings, details and so on, from his principal's rough sketches. HENRY HYAMS.

Architecture and the Public

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The suggestion made by Mr. Gordon Selfridge in his address to the Architectural Association that architects should combine in propaganda work so as to create a greater appreciation of architecture amongst the public is generally very interesting and helpful.

We feel ourselves that what is needed even more is that the general public should appreciate the work and duties of the architect. Architecture must no longer be considered as a luxury, but should be employed always, for every type of building, just as a solicitor is employed for legal matters.

We venture to hope that the carefully planned scheme which has already been announced in your paper, and which will appear week by week in future issues, may be useful in supplying the educational programme needed.

ERNEST A. WILLSON,
Per pro Archibald D. Dawnay and Sons, Limited.

Maintaining Church Fabrics

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The article in your paper of March 2 suggesting that, but for mismanagement, the Church could deal with such things as the restoration of St. George's out of her endowments, rests on a misconception. The Church as a corporation has no funds. Every bit of endowment has been given to individual parishes, bishoprics, or other institutions, and the Church as a whole has no control of them whatever.

In 1836 the development of towns and the increased working of coal had increased the value of the incomes of certain offices to an unreasonable degree. Parliament intervened and passed an Act to take such surplus funds and put them under the control of a Commission. This Commission is called the Ecclesiastical Commission, but it is answerable to Parliament, and the assemblies of the Church have no opportunity of considering its accounts or controlling its management, though Parliament appoints certain clergy among the Commissioners.

The Commission, however, have not a free hand in the allocation of the funds. Parliament laid down minute regulations for this purpose. The Commissioners are bound to pay certain fixed sums annually for the maintenance of the bishoprics, cathedrals, and parishes whose property they took over. The surplus they can use:

1. To help the formation of new parishes made necessary by the growth of population.

2. The payment of curates in certain conditions.

3. The improvement of poor livings. Their aim is to bring all livings to a minimum of £200 a year—not an exorbitant aim.

Parliament has given them no power to subscribe to the restoration of such buildings as St. George's.

The new National Assembly, which has given the Church a larger measure of self-government than she ever had before, has given her no control of one penny of the funds arising from endowments.

If, however, she was given power over the funds now held by the Commission, I doubt whether public opinion would approve the diverting of funds from the purposes to which the Commission now devote them to such objects as restoration of churches and cathedrals.

Nor do I see anything humiliating in expecting this generation to show generosity in preserving the glorious buildings which the generosity of previous generations has given us.

I may say from my experience that I doubt whether there is any body controlling funds which has used those funds with greater wisdom and economy than the Ecclesiastical Commission.

ALBERT BAILLIE, Dean of Windsor.

[Editorial comment appears on page 284. —EDS. A.J.]

Dynamic Symmetry in Ancient Architecture

Mr. Jay Hambidge delivered an address on "Dynamic Symmetry in Ancient Architecture," before a meeting of the R.I.B.A. last week. Sir Charles Walston occupied the chair. Following is a summary of the address:—

With the Greeks of the classic period it was customary to study arithmetic with the aid of simple geometrical diagrams. Plato, in the Theaitetos, supplies a lesson in this method of study wherein root rectangles are used. If we use this method of arithmetical study, and the same diagrams, the result is dynamic symmetry, as I have worked it out from the best examples of ancient Greek architecture and general craftsmanship, such as that supplied by surviving objects in bronze and pottery.

During the past year some of the most important of the classic buildings in Greece have been remeasured and examined in detail for the purpose of determining precisely the methods used by the ancient master builders in fixing their proportions, or, as they termed it, symmetry. These buildings include: The Parthenon at Athens, the temple of Apollo Epikurios at Bassae, in Phigaleia (both by the Periclean architect Iktinos), the Zeus temple at Olympia, the temple at Sunion, and the temple of Athena Aphaia at Aegina. It is my belief that the results of this labour show conclusively that we have recovered the classic Greek method of fixing building proportions.

An interesting situation is revealed by a comparison of the two buildings designed by Iktinos, the Parthenon at Athens and that of Apollo at Bassae. The symmetry of the Parthenon is characteristic of the building; it is subtle, refined, and modified in many ways by the introduction of curvature. The building at Bassae is without curvature except that of the circular columns and their capitals. The Parthenon column has an extremely delicate entasis, while that at Bassae is perfectly straight. Of all examples of Greek design so far found to conform to dynamic symmetry, that furnished by the Bassae temple is the simplest.

As was explained in lectures of last year, the highest type of symmetry is furnished by areas which are fixed by a diagonal to two square in relation to a side of one of the units.

If a side of one square equals 1. two sides equal 2.

And a diagonal of the two units equals 2.23606 plus, or root 5.

The mystery of classic Greek proportion will, therefore, be found in an area the end of which is 1. and the side .23606 plus, or 1. by 2.3606.

Iktinos seems to have thoroughly understood this as the nave, the column centering, and the placing of the statue of Athena are arranged in strict accord with the proportions inherent in this peculiar figure. The proportions of the Parthenon unfold from the center of the statue of the goddess like those of a flower.

The proportions of the Bassae temple are another evolution of this basic form of .236.

The overall plan at Bassae is 2.236 plus .236, or 2.472, i.e., four whirling square rectangles, or .618 multiplied by 4.

The stylobate proportion is 2.618, or 1.618 plus 1.

The naos proportion is 3.236, or 1.618 multiplied by 2.

The cella proportion is 2.472, or a similar figure to the whole.

If we divide the length of the temple by 2.36 we obtain the length of the cella. If we divide the width of the temple by 2.36 we obtain the width of the cella.

The Zeus temple at Olympia and the temples at Aegina and Sunion show variations of the same basic ideas of proportion found in the Parthenon and the temple at Bassae. It should be remembered that the proportions of all details in these buildings conform strictly to their general proportions.

A vote of thanks was proposed by Mr. P. W. Hubbard, and seconded by Mr. Cloudesley Brereton. Mr. Brereton remarked that at Mr. Hambidge's previous lecture many of the audience, he believed, thought that Mr. Hambidge was trying to form a new theory of æsthetics. He hoped that to-night that mistake was set right. Mr. Hambidge was doing nothing more than recovering a lost part of the grammar of art. There were certain definite, logical, and mathematical laws which underlay all art.

Mr. Fyfe, Sir Charles Walston, and Mr. George Hubbard also spoke appreciatively of Mr. Hambidge's work.

Change of Address

Messrs. G. R. Speaker and Company, well-known for their "Eternit" materials introduced by them nearly twenty years ago, have decided to transfer their head offices from 29 Mincing Lane, London, E.C.3, to Eternit House, Stevenage Road, London, S.W.6, to which all communications should be addressed after the 15th of this month.

Enquiries Answered

Manufacturers of Metal Skylights.

H. M. writes: "Please give me a list of the names and addresses of firms who manufacture metal skylights and fanlight gearing or window openers."

—There are many different types of skylights and fanlight gearing, each of which has its own special uses and advantages, and we regret that, owing to the pressure on our space, it is impossible to give a full list of manufacturers. Should our querist not be able to obtain the desired information by referring to our advertisement pages he should communicate with the secretary of the Steel Window Association, 246, High Holborn, W.C.1.

Names on War Memorials.

J. K. H. writes: "Please inform me if it is the practice at present to place upon war memorials in the larger centres of population a complete list of the names of the fallen. I have a case in point where the list of names will number at least 1,000. I have the impression that some at least of the recently designed memorials in the larger towns have not included any list of names. Can you tell me if I am correct and name examples?"

—The desirability or otherwise of recording the names of the fallen depends, of course, upon the size and character of the memorial and the number of names to be recorded. In the case of the memorial to the the City of London troops outside the Royal Exchange (Sir Aston Webb, architect), only the names of the regiments are mentioned. There is also the Liverpool precedent. Liverpool's memorial is to consist of a chapel in the new cathedral (Mr. G. Gilbert Scott, architect), and the names of the fallen will be inscribed in a vellum volume which will be preserved in a casket within the chapel. Southport provides a good example of the practice of recording names upon the memorial itself, the design (Messrs. Grayson and Barnish, architects), comprising an isolated obelisk flanked by separate colonnaded pavilions, upon the walls of which the names are arranged in tabular form. We believe that in some large towns, whose fallen are too numerous to mention individually upon the memorial itself, the practice is to keep a printed record in the town-hall or other suitable building, this fact being prominently recorded upon the memorial.

R.I.B.A. New Members

The following candidates for membership were elected at the last general business meeting of the R.I.B.A. The three Associates marked * have been the subject of special consideration by the Council, being put forward as special cases in accordance with recommendations Nos. 2, 3, and 4, passed at the Conference with representatives of Allied Societies on January 19, 1920, and unanimously approved by the Council on February 2, 1920. All the other Associates have passed the special war examination of the Institute:

Fellow.

Dewhurst, J. C., Dublin.

Associates.

Allderidge, C. D., Bridlington.
Balmer, S., Clapham Common.
Bernton-Benjamin, H., London.
*Brown, J., Lieut.-Col., D.L., D.S.O., Northampton.
Bulstrode, S. G., Christchurch.
Burke, J. E., Dublin.
Burleigh, H., Hastings.
Burnett, P. V., London.

Clarkson, G. F., London.
Collins, H. R., Cambridge.
Couldrey, W. N., Paignton.

Dangerfield, B., M.C., Finchley.
Dangerfield, P., St. Albans.
Davidson, S., Edinburgh.
Davidson, W. A., Aberdeen.
Dixon, P. S., Lewisham.

Earnshaw, H. H., Cheadle.

Feltham, S. C., Tottenham.

Geary, F. G., Streatham Hill.
Gordon, A., Bucksburn, Aberdeenshire.
Grummant, R. T., Highgate.

Holt, F., Liverpool.
Horth, F. J., Hull.
Howard, S. B., Liverpool.
Hughes, H. C., Cambridge.

Jackson, B. H., Wimbledon.

Kaye, S., Edinburgh.
Kearne, L. H., Regent's Park, N.W.
Kerr, R. S., London.

Lumb, J. H., Bootham, York.
Macpherson, D., Finchley.
Mallard, F. A., Regent's Park, N.W.
Mann, S., Wigton, Cumberland.

Nightingale, F. B., Wandsworth Common, S.W.

Pickford, A. C., Wandsworth Common, S.W.

Reid, A. W. D., B.A., Gerrard's Cross.
Richardson, F., Carnforth, Lancs.
Rickatson, J., Hull.
Ross, L. O., London.

Sanders, J. E., Liverpool.
*Short, E. W. G., Lieut.-Col., Forest Hill, S.E.
Silver, E. R., Muswell Hill, N.
Smith, J. S., Fulwood, Sheffield.

Thomas, H. A., Liverpool.

Walker, F. A., Adelphi, W.C.
*Webster, F. P., Sharrow, Sheffield.
Whitburn, A. S., Woking, Surrey.
Whitby, C., Chelsea, S.W.
White-Cooper, R. C., Earl's Court, S.W.
Wilson, H. E., London.
Wood, W. W., Forest Hill, S.E.
Woodhouse, B. W., Heckmondwike, Yorks.
Wornum, G. G., London.

Honorary Corresponding Member.

Louvet, Albert, President of the Société des Architectes Diplomés par le Gouvernement, Paris.

Honorary Associate.

Plume, William T., Editor of the "Builder," 4 Catherine Street, Strand, W.C.

Sir Edwin L. Lutyens, R.A., was elected Royal Gold Medallist at the same meeting.

Walcot Etchings at Tothill Street

The exhibit of Walcot etchings now on view in the Reading Room at 29, Tothill Street has been enriched by the addition of several more examples of the artist's work. Of particular interest is a new water-colour of Christ Church, Oxford, while the delicate charm of the various small etchings, whether classic or modern in subject, will appeal both to architects and to art lovers among the general public.

Obituary

Mr. Edmund Sedding, F.R.I.B.A.

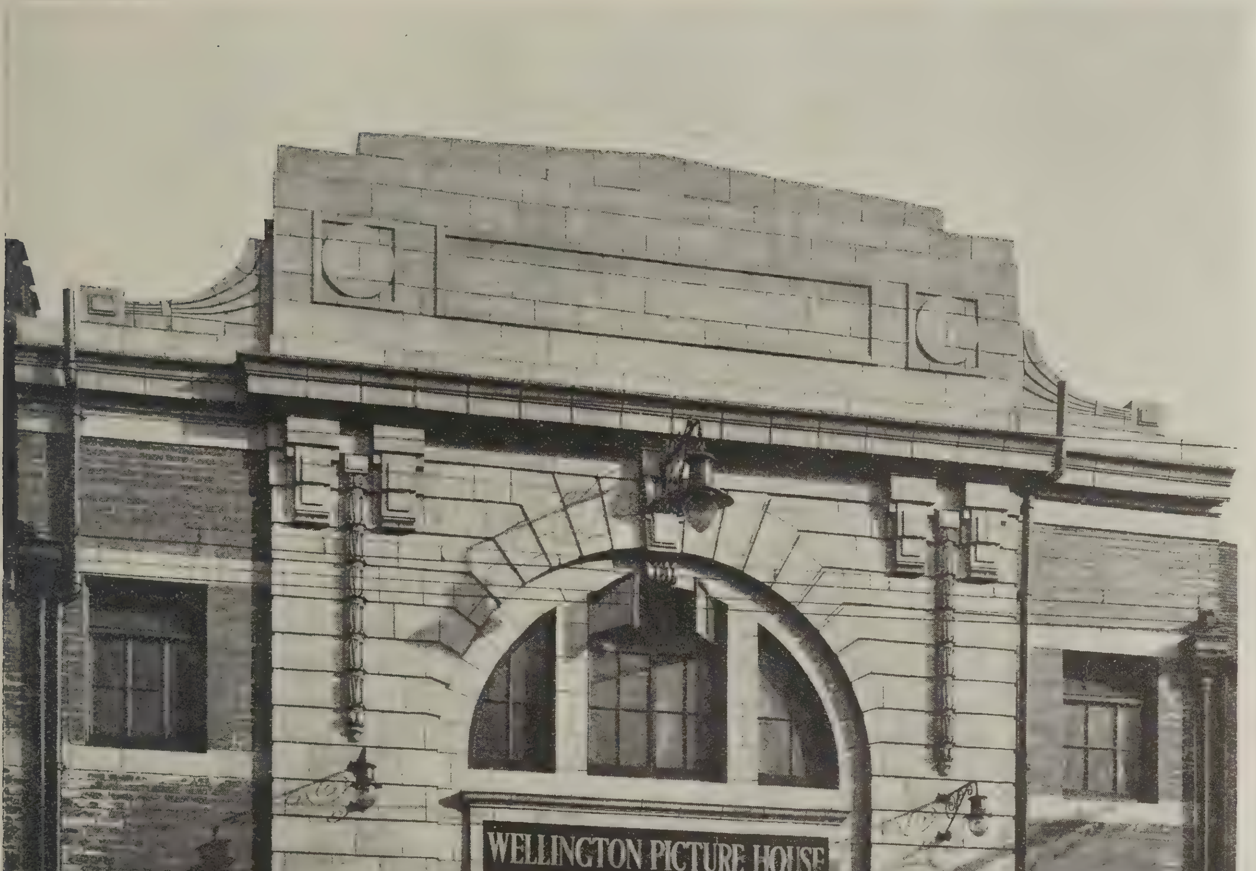
It is with deep regret that we announce the death of Mr. Edmund Sedding, F.R.I.B.A., of Plymouth, from whose designs a great many church restoration and enlargement schemes have been carried out in the West of England. Mr. Sedding, who was articled to the late Mr. John D. Sedding, won in 1884 and 1885 respectively the medals for measured drawings of the Royal Academy and the R.I.B.A.; in 1886 the English Travelling Studentship for design at the Royal Academy, and in 1887 was awarded a special Pugin medal for sketches. At the time of his death Mr. Sedding was in partnership with Mr. Basil Stallybrass. We hope to publish an appreciation of his work in our next issue.

SIR EDWIN L. LUTYENS, R.A., F.R.I.B.A.

(Elected Royal Gold Medallist at the last meeting of the R.I.B.A.)

Current Architecture. 63.—Wellington Picture House, Leeds

G. Fredk. Bowman and Son, Architects

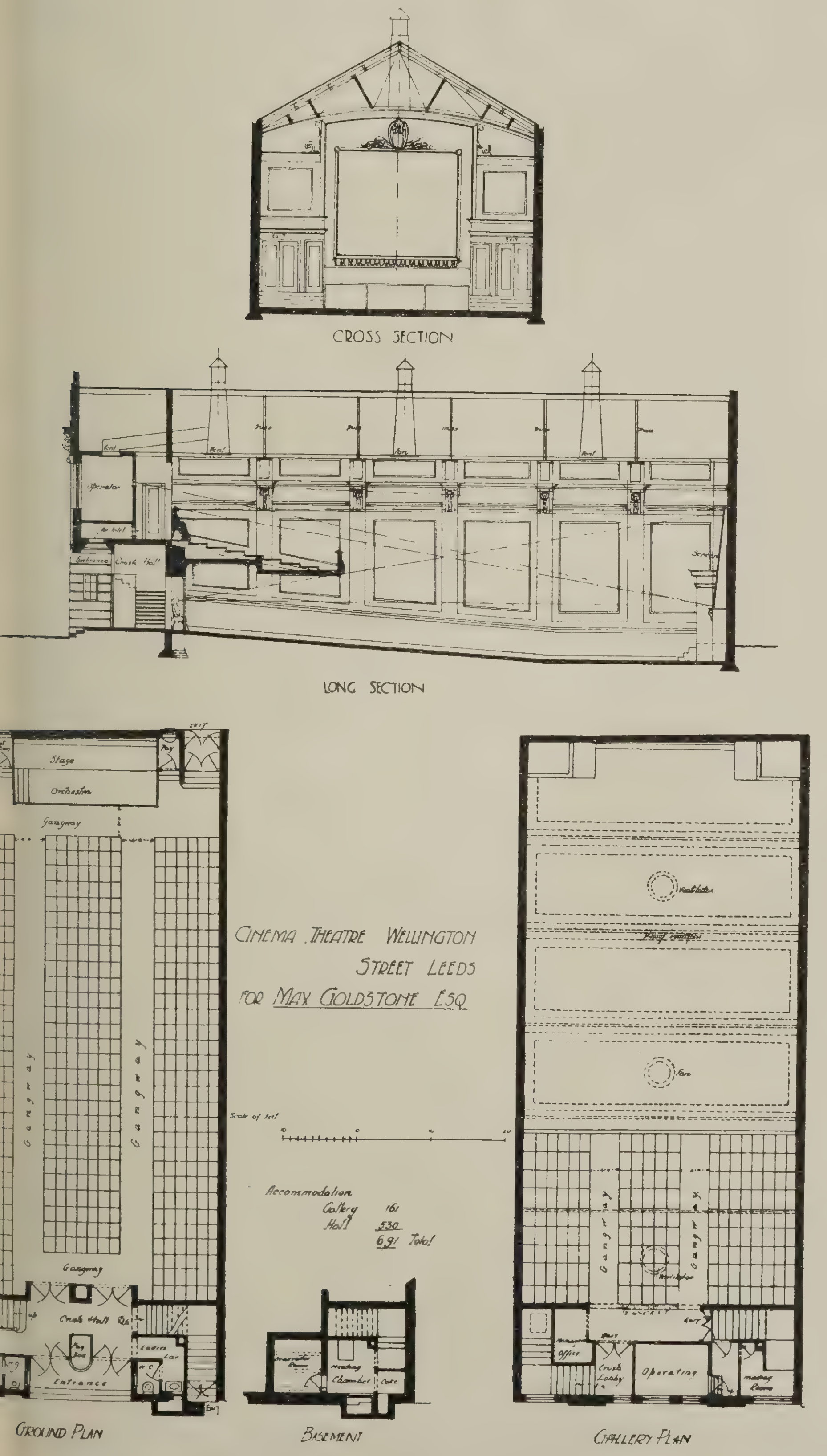


The elevation of this cinema theatre is carried out in white glazed terra cotta with a dragged surface. Further particulars of the building, together with plans and sections, are given on the following page.

A Leeds Cinema Theatre

The Wellington Picture House, Leeds, lately completed from the designs of Messrs. A. Fredk. Bowman and Son, stands on a narrow site and has a seating capacity of 700. The principal elevation, to Wellington Street, is faced with glazed white terra cotta with a dragged surface.

Following is a list of contractors who carried out the work under the supervision of the architects: Brick and mason, F. Reddyhoff and Son; carpenter and joiner, J. Tomlinson and Son; iron and steel, Leonard Cooper, Ltd.; plumber, Geo. Thompson; plasterer and fibrous plaster decorations, Geo. Dobson; painter, Roylance and Horsman; heating, Thos. Green and Son, Ltd.; terra cotta, Alfred Whitehead; slater, Arthur Deat, all of Leeds.



WELLINGTON CINEMA THEATRE, LEEDS: PLANS AND SECTIONS.

Royal Academy Ateliers

Shortly before the war a few architects, enthusiasts in education, formed the Beaux Arts Committee to promote improved methods of architectural training in Great Britain; and having secured the patronage of the Société des Architectes Diplomés par le Gouvernement de France, and the personal support of a number of distinguished French and English architects, with the assistance of the Society of Architects, established in London the first atelier of architecture in Great Britain. The outbreak of war, just as the atelier had overcome the opposition which drastic reform always meets with, caused a suspension of activities while the patron and students were on active service.

In the meantime the Society of Architects built and equipped a new atelier attached to their headquarters at 28 Bedford Square, London, where the members and friends assembled on Tuesday night of last week to welcome Monsieur Chaures, the patron, now happily recovered from his wounds, and the other survivors of the original band of students, and to make arrangements for resuming the work.

The President of the Society of Architects, Sir Charles T. Ruthen, O.B.E., welcomed Monsieur Chaures on his return, and congratulated the Beaux Arts Committee and the Society in having secured a continuance of the services of so able an architect to carry on and extend the traditions already established in the atelier. Its pioneer work, under the able direction of Mr. Arthur Davis, F.R.I.B.A., to whom the atelier owed so much, had been recognised by its inclusion amongst the Royal Academy ateliers, together with those ateliers since established by other architectural bodies.

It was announced that the first twelve-hour esquisse for a monthly project would be held on Saturday, March 12, and on Sunday, March 13, in the atelier at 28 Bedford Square, W.C.1. All members of the atelier who have paid their subscriptions are eligible to compete upon payment of the usual fee. The programme will be set in conjunction with the Architectural Association and London University ateliers.

Weekly Housing Report

The Government grant of £260 to £230 to private builders has now been paid in respect of 9,569 houses. Of these, 399 were completed during the week ended February 25. Certificate A has been issued in respect of 30,652 houses, the Government commitment now standing at £7,436,957.

New housing schemes submitted to the Ministry during the week ended February 25 numbered twenty-two, bringing the total number of schemes submitted to 11,547. The schemes approved now number 9,020, and comprise about 57,825 acres. Forty-four schemes were submitted and forty-seven were approved during the week.

House plans representing 553 houses were submitted, and plans for 514 houses approved. The total number of houses represented in all plans now submitted is 296,390, and in the plans approved 278,131. During the week tenders were submitted for 1,683 houses. Tenders for 1,552 were approved, bringing the total number of houses in tenders submitted to 190,952, and in tenders approved to 177,153. Contracts have been signed for 149,893 houses.

Law Reports

Contract for Delivery of Bricks

Saunders v. Pagett and Swain.

King's Bench Divisional Court.
Before Justices Coleridge and Greer.

This was an appeal by Mr. Sydney William Samuel Saunders, contractor, of Pershore Road, Selby Park, Birmingham, from a decision of an Official Referee in an action brought by him against Messrs. Pagett and Swain, brick merchants, of Oldbury, near Birmingham.

Mr. Hurst, K.C., in support of the appeal, said the action was brought by the plaintiff for damages for breach of a contract for the delivery of bricks. He required the bricks for the purpose of fulfilling a contract he had entered into with the Corporation of Birmingham for the reconstruction of a sewer in Pershore Road, and his contention was that by reason of the defendants' failure to deliver the right bricks in time he lost his anticipated profit of £400, and was put to the extra expense of £500 in carrying out the contract. The action was begun at Birmingham Assizes, but was remitted to an Official Referee, who in October last gave judgment for the plaintiff for £45 only. That was in respect of bricks which had been delivered by the defendants, and were of the wrong size, but he said in regard to the main question in the action there had been no delay at all. He, however, thought it wise to assess the damages in case he was wrong on that point, and he accordingly found that the sums to which the plaintiff would be entitled in that event would be £125 in respect of expenses to which he had been put and £50 for additional carting. Plaintiff now contended there had in fact been a breach of contract which would entitle him to these two sums in addition to the £45.

Mr. Dyer, K.C., for respondents, urged that the Official Referee had properly construed the contract, and his decision being one of fact should not be upset.

Their lordships held that the Official Referee was entitled on the facts to find as he did. The appeal was therefore dismissed.

Builder's Heavy Claim

Stobald v. Thornley.

Official Referee's Court. Before Mr. E. Pollock.

This was an action brought by a builder Mr. Frank Stobald, of Chelsea, against Major H. Thornley, of Sutton, Surrey, for balance of account of £916 15s. 10d. for building work done at the defendant's house.

Mr. Russell Davis, with Mr. C. H. Collingwood, appeared for the plaintiff, and the defendant was represented by Mr. J. P. Oliver and Mr. D. E. Oliver.

Counsel, in opening the plaintiff's case, said that the total cost of the work done and materials supplied, according to the statement of claim, was £916 15s. 10d., and of that £450 had been paid on account, so that the claim stood at £466 15s. 10d. The plaintiff, in making out his bill against the defendant, had taken first the men's time-sheets, which totalled up to £450 3s. 2d., then the materials used at the purchase price, allowing the plaintiff the trade discount, and taking nothing for himself. The net amount which he had paid for the materials was £190 18s. 8d. In addition, he had supplied a certain amount of material from his own stock at a price below the market value. The work being done out of London, the men would have been entitled to country wages, but they had only charged out-of-pocket expenses. The actual cost to the plaintiff was £854 10s., upon which it was intended to charge 10 per cent., but he had charged less than that as his profit. The house in question had been in the occupation of the military authorities, and was consequently in a bad condition. Major Thornley got an introduction to the plaintiff, and told him what he wanted done, observing that he wanted it done as cheaply as possible. Practically the only question which would arise in the case was whether a reasonable sum had been charged for the work done, and whether there had been any negligence in carrying it out. When the payments on account were made the plaintiff had expressed himself as being quite satisfied, but when the final account was rendered the Major complained of the amount, and that it was 100 per cent. more than he expected. Major Thornley had at one time been a surveyor, and therefore, said counsel, had his own ideas in reference to such matters. It was not until after a correspondence had started on the subject of charges that he had expressed any dissatisfaction with the manner in which the work had been done. It was suggested by plaintiff that a surveyor nominated by the Surveyors' Institution should arbitrate, but that suggestion was not acted upon by the defendant, who, after the action was started, made a counterclaim for the return of money which he said had been paid in excess.

Mr. Frank Stobald, the plaintiff, gave evidence supporting his counsel's statement, as did also his foreman, Mr. R. Foster, and one of his workmen named Frank Willis.

Mr. Guy Murray Nicholson, of Holborn, surveyor, who had inspected the work, said he went over the premises with Major Thornley, and satisfied himself that the work charged for had been done. Taking the account generally, he said that plaintiff's charges might be regarded as very low.

In cross-examination, witness said, although he did not call the work first-class, it was good as compared with the low price charged for it. If a West-End decorator had been called in to do it the cost would have been from 50 to 75 per cent. higher.

Mr. Frank Selby, of the firm of Messrs. Selby and Sanders, quantity surveyors, Chancery Lane, though the plaintiff's charges were reasonable for the work done.

For the defence Major Thornley and several expert witnesses were called.

The Referee, in the result, said there was a conflict of testimony between plaintiff and defendant as to the alleged undertaking on the part of the former to do the work for £450; but the defendant had given no indication of any such arrangement in the correspondence or otherwise until he came into Court, and he believed the statement of the plaintiff in regard to it in preference to that of the defendant. It had not been proved that the work was unsatisfactory or unsuitable to the house, having regard to the fact that it had to be done as cheaply as possible. He had come to the conclusion that plaintiff was entitled to recover the amount of his claim.

Judgment was accordingly entered for the plaintiff on the claim and counterclaim, with costs.

Builders' Joint Account

Hocking v. Drew.

Official Referee's Court.
Before Mr. E. Pollock.

In this case, which related to a joint account between builders who had arranged to carry out a number of jobs together, principally at premises belonging to Messrs. Lipton, Mr. C. Hocking, builder, of 35 Great Queen Street, Kingsway, W.C., claimed £134 14s. 9d. on a joint account from Mr. W. A. Drew, another builder carrying on business at 235 High Holborn, W.C.

Mr. Theodore Mathews appeared for the plaintiff, and Mr. Lever for the defendant.

Mr. Mathews, stating the plaintiffs' case, said that the point at issue was, broadly, whether the defendant owed plaintiff £134 14s. 9d., or, as defendant said, only £13 5s. 1d., and the answer to the question depended entirely upon an examination of the accounts between the parties. He proposed to deal with two only, that of June 4, 1920, and of June 20, 1920, which gave a total as claimed. The dispute, said counsel, arose in this way. Mr. Hocking was a builder in a considerable way of business, and Mr. Drew was engaged in a similar trade in a small way. In 1920 Mr. Drew obtained a contract for building work for Messrs. Lipton, and he made arrangements with Mr. Hocking by which they were to share profits. It was arranged that Mr. Hocking should supply him with men, materials, and money to carry on the work. While Mr. Hocking was providing capital and men, Mr. Drew was doing certain other work for the plaintiff, and therefore there was a contra account. Two points of difference arose as to the hire of materials and men, and plaintiff said that defendant owed him on that account £93 4s. 3d., but defendant said the right figure was £36. Then, on the contra account, plaintiff said he owed the defendant £777 14s. 11½d., but defendant said the amount was £828 14s. 3½d. There was a large number of smaller items, but he (counsel) had the consent of his client not to go into them, as the result would not be worth the trouble.

Mr. Charles Hocking, sen., the plaintiff, gave evidence as to the arrangement he had made with the defendant as to the division of profits on the work done under the contract in return for the services which he rendered. He was examined in detail as to the charges which made up the total of his account.

In the course of a long cross-examination, directed to showing that he had made excessive charges, the witness said that he had charged 6d. a week each for the hire of a dozen pails, amounting in all to £13. The purchase price of the pails at that time would have been 4s. 6d. each.

After the plaintiff's case had proceeded during the whole of the first half of the day, the Official Referee suggested that t was lamentable that so much time should e occupied, and so much expense in- urred, in fighting a case in which the mount in dispute was so small and the ssue involved in so narrow a compass. He uggested the possibility of an arrange- nent with a view to shortening or deter- nining the case.

With that end in view the luncheon ad- ournment was extended by three-quarters f an hour, when it was announced by ounsel that the parties could not come terms for settlement, but it was agreed at the further hearing should be con- ned to one issue only, involving a sum f £27 14s. 9d. which plaintiff said he had aid and defendant said he had not ceived.

Ultimately, after a further consultation etween the parties, the defendant agreed judgment being entered for the plaintiff r £100, to include costs.

ocieties and Institutions

Birmingham Architectural Association.

Mr. Lionel B. Budden, M.A., R.I.B.A., read a paper on "Architec- ral Education" before the ninth general eeting of the session of the Birmingham rchitectural Association, held under the airmanship of the president, Mr. H. T. ckland, F.R.I.B.A. The lecturer pre- ced his paper with the observation that most articles and discussions that have en devoted to this subject no clear finition of the function of the architect uld be found, some visualising him as a uctural engineer, others as an artist, d others again as a hybrid between an tist and a business man. Mr. Budden erefore began with an analysis of the tual duties of the architect.

An architect was required to be an ex- rt in planning, to have a thorough owledge of materials and methods of nstruction; to be competent in certain chnical sciences involved in the practice architecture—such as surveying, sanita- n, hygiene, acoustics, etc., to know how fuse together the programme of prac- al needs, materials and construction o an æsthetic whole—in a word, to be le to design; to be proficient in the pre- ntation of design, and to understand the ministrative, legal, and financial proce- res relating to architectural practice. In mer days proficiency in all these sub- ts could be acquired, but owing to the re extensive range of to-day this is im- ssible, and specialisation becomes vitable, and architectural education st be adapted to meet that situation.

Five of these essentials could be taught, the faculty of design can only be nulated and given means of expression, l it is for this that a school is better ed than an office as a means of instruc- n. The greatest difficulty arises in how correlate the school and the office. The pil could go to a school in the morning l an office in the afternoon, but he ld have great difficulty in concentra- g on his work; he could go to an office he day time and to classes in the even- , but then he would be exhausted and ost incapable of taking in knowledge; he could go to a school for certain iods of the year and to an office during remainder. This seems the most sible and correct method to employ.

Every effort should be made to place ual examples before the students, and Budden instanced the fact that the ema was being used at the Beaux Arts for teaching construction. In the space of five years there is not sufficient time to teach more than one style, and the principal of the school should decide on the most suitable, and teach it thoroughly in all its aspects, ignoring other styles entirely. Mr. Budden ended by advocating the adoption of an academic system of architectural education, which would be able to offer scholarships, thereby affording an opportunity to people who had the ability, but who could not afford to pay the fees.

At the conclusion of the lecture Mr. W. Haywood proposed a vote of thanks, which was seconded by Mr. E. F. Reynolds, and carried unanimously.

Institute of Scottish Architects.

A meeting of the Council of the Institute of Scottish Architects has been held at 117 George Street, under the presidency of Mr. Alexander N. Paterson, Glasgow. As a result of the Housing and Town Planning Act of 1919 having made compulsory on urban districts of over 20,000 inhabitants the adoption of a town planning scheme from 1923, the matter was remitted to the Town Planning Committee in view of the desirability of expert professional advice being obtained by such urban districts. In connection with the removal of the Hilton of Cadboll Stone to the British Museum, a letter of protest was drawn up to be forwarded to the Trustees of the Museum, the Secretary for Scotland, H.M. Board of Works, and the donor, Colonel M'Leod, of Invergordon Castle.

South Wales Institute of Architects (Western Branch).

The fourth lecture of the winter session was held at the Royal Institution of South Wales, Swansea, on March 1. Dr. T. Franklin Sibly (Principal of Swansea University College) took the chair. The lecturer was Mr. J. Alfred Gotch, F.S.A., F.R.I.B.A., who took for his subject, "Domestic Architecture of the Eighteenth Century."

In opening his lecture Mr. Gotch showed on the screen the work of Inigo Jones in the earlier part of the seventeenth century, and outlined the development of the house during the intervening period up to the eighteenth century. He then described the large and stately palaces designed by Sir John Vanbrugh at Seaton Delaval, Castle Howard, and Blenheim, pointing out the theatric composition, and contrasting the imposing elevations with the highly unpractical and extravagant planning of the period. He showed that while the larger houses of this period were impossible when considered as comfortable homes, the eighteenth-century architects really succeeded in producing buildings which fulfilled the functions for which they were designed, namely, the entertainment of the great nobility and their numerous retainers.

He later showed how in the smaller manor houses of the period a comfort and convenience lacking in the great houses was admirably combined with delightfully simple elevations, and that when the foreign influences of Palladio were diluted with the vernacular tradition, a suitable and essentially English piece of building was the result. Lantern slide, giving characteristic details of joinery and smithery were also thrown on the screen.

A vote of thanks was proposed by Mr. Glendinning Moxham, F.R.I.B.A., and seconded by Mr. J. Herbert Jones, F.S.Arc., who said that the smaller buildings of the eighteenth century were regarded by present-day architects with considerable affection, and that they were a source of inspiration for much modern domestic work.

[Mr. Gotch is undoubtedly our first authority on the subject of the domestic work of the eighteenth century, and his written works will stand as authoritative text-books for all time.]

Latest List of New Inventions

Latest Patent Applications.

5260. Hamilton, H. A.—System of building walls. February 16.

5346. Johnston, H. M.—Floor Surfaces. February 16.

5158. Livesey, J.—Cement concrete cavity wall building. February 15.

5187. Swingler, E.—Erection of walls. February 15.

Specifications Published.

158596. Carter G.—Walls and blocks, or bricks for building same.

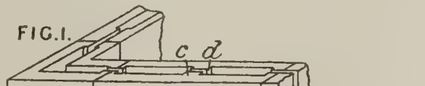
158693. Claude G.—Protection of the walls of enclosures in which reactions take place under high temperatures and pressures.

158674. Crosbie, M. Talbot.—Asphaltic cement of bituminous composition for road-making, paving, flooring, roofing, and other purposes.

Abstract Published.

153745. Building bricks or slabs.—Beswarick, J. C., 2 Church Road, Hove, Sussex.

Bricks or blocks are formed in two longitudinal sections A, B, having vertical and longitudinal recesses *a*, *b* and interlocking means *c*, *e*, *d*, *f*. When assembled they form a hollow wall with continuous vertical and horizontal air spaces, and to allow access and egress of air; hollow bricks are provided with passages connecting to the hollow space. Hollow quoin blocks with interlocking portions are also provided, and air bricks to ventilate the space under the floor.



The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2, from whom readers of this Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner and Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1s. each.

The Week's News

Flyde Rural Housing.

The R.D.C. propose to erect thirty houses.

Repton's Housing.

The R.D.C. have decided to build sixty-six houses.

Housing at Rawmarsh.

The U.D.C. are applying to the Ministry of Health for sanction to a loan of £10,510 for housing.

Housing at Seaham Harbour.

Plans have been passed for the erection of fifty five-roomed houses on the Princess Road site by direct labour.

Housing at Chislehurst.

The Public Works Loan Commissioners have agreed to advance £55,140 to the U.D.C. for housing.

Bridge Rebuilding in Middlesex.

Fifty thousand pounds is to be spent by the Middlesex County Council on the rebuilding of four county bridges.

Westminster Hall Repairs.

To date £68,000 has been spent on repairs to the roof of Westminster Hall. It is expected to complete the work by the end of next year.

Housing at Droitwich.

The T.C. have agreed to apply to the Public Works Loan Commissioners for a loan of £29,000 for the erection of thirty-four houses at Broadway.

Proposed New Cinema for London.

Messrs. Crosse and Blackwell's Soho premises have been sold to a syndicate. who propose to erect a cinema and restaurant on the site.

Long Eaton Housing.

Two houses have been formally opened. Thirty houses are in course of erection, and the Council are considering the advisability of erecting a further batch.

Glasgow Housing Schemes.

Glasgow Dean of Guild Court have approved two housing schemes promoted by the Corporation and estimated to cost £2,500,000.

Selby Housing Scheme.

Work has commenced on the site selected for the Selby Council's additional housing scheme. A section of forty-one houses will be built first.

Bolsover Housing.

One hundred and thirty-eight houses are to be erected by the U.D.C. in Moorfield Lane on land acquired from the Duke of Portland for £1,641.

Torquay Road-Widening Scheme.

Paignton U.D.C. have decided to contribute £2,000 towards the widening by the Devon County Council of Torquay Road.

Housing at Croydon.

Of the 125 houses at Long Lane North, Woodside, seventy-two are completed and occupied, the others being in a forward state. Of the 588 Norbury Manor Estate houses 534 have been commenced.

The Late Mr. Mitchell Withers's Estate.

Mr. John Brightmore Mitchell Withers, of Sheffield, architect and surveyor, a former President of the Sheffield Society of Architects and Surveyors, and a former member of the Council of the Royal Institute of British Architects, who died on October 23 last, aged fifty-five, left estate of the gross value of £57,932 5s. 6d., with net personalty £7,010 13s.

Peterborough Cathedral.

The Dean of Peterborough has stated that the eastern chapel of Peterborough Cathedral is in imminent danger of collapse. A high wind caused thousands of pounds worth of damage to the roof.

Croft Rural Housing.

The R.D.C. have decided to borrow £3,000 from the Public Works Loan Commissioners for housing at Manfield, and to apply for a loan for the erection of houses at Barton.

Housing at Doncaster.

The Housing Commissioner has approved the scheme of the R.D.C. for the erection of working-class dwellings at Conisboro'. Approval has also been received from the Ministry of Health to the acquisition of a housing site at Braithwell.

Bentley Sewage Works Extension.

Plans have been prepared for an extension of the Arksey Lane sewage works of the U.D.C. It is proposed to install three liquefying tanks, two filters, and two humus tanks, at an estimated cost of £12,500.

Friern Barnet Housing Scheme.

Under the Council's housing scheme thirty-six houses are at present in course of erection in the North Ward, and forty in the South Ward. The housing scheme provides for a total of five hundred houses.

Houses of Parliament War Memorial.

A memorial, executed by Mr. Bertram Mackennal, A.R.A., has been erected under the great window in St. Stephen's Porch to the members of both Houses of Parliament and officials who fell in the war.

Memorial Hall for Criccieth.

As a memorial it is proposed to build a hall to seat twelve hundred people. It is estimated to cost over £8,000, and £5,000 has already been subscribed. Messrs. O. M. Roberts and Son, Portmadoc, are the architects.

The Late Mr. H. T. Hare's Estate.

Mr. Henry Thomas Hare, of Farnham Common, Bucks, and Gray's Inn Square, W.C., Past-President of the Royal Institute of British Architects, who died on January 10, left estate of the gross value of £23,033, and the net personalty of £16,600.

Saltley War Memorial.

An altar of stone, taking the place of the one of wood, has been dedicated by the Bishop of Birmingham at St. Saviour's Church, Saltley, as a memorial to those in the parish—fifty in number—who gave their lives in the war. Tablets bearing the names of those who died have been placed on the side pillars of the chancel.

University College Hospital.

In connection with the reconstruction scheme of University College Hospital, the committee have appointed as joint architects Mr. Paul Waterhouse and Mr. George Hornblower. Mr. Waterhouse collaborated with his father, the late Alfred Waterhouse, R.A., in the design of the hospital buildings, which he brough to completion after his father's retirement and he was also the sole architect of th medical school. Mr. Hornblower ha been for many years the consulting arch tect to the Hospital Committee. Th buildings and alterations which form th scheme are largely the outcome of th magnificent gift of the Rockefeller Four dation.

354 *More Houses at Renfrew.*

Plans have been approved for the ere tion of 354 houses at Loanhead at an est mated cost of £350,000. The houses wi be of three, four, and five apartments, wit scullery and bathroom. The first portio of the Renfrew housing scheme involve the erection of 184 houses at Newmain The first half of this portion of the schem has been completed, and sixty of the hous are in actual occupation.

Ex-Service Men and Building.

Dr. Macnamara has stated in the Hou of Commons that negotiations for the en ployment of 50,000 ex-Service men in th building trade were now proceedin actively. The Government had appeal to the unions, and made a special offer them, but they did not accept it. Th Government had since appealed to th Federation of Building Trades Employer and the reply was highly satisfactory.

Building Guild Schemes.

In a reply published in Parliamenta Debates, the Minister of Health says h has agreed to twenty housing contrac being executed under the guild systen His information is that the local author ties are satisfied with the progress an workmanship of the contracts now bein carried out. The system, however, is sti in an experimental stage, adds Dr. Add son, and until he is satisfied that the guil will build quickly and economically he not prepared to sanction contracts in exce of twenty.

Sir John Soane's Museum.

Sir John Soane's museum of magnifice paintings, sculpture, and antiquities—a interesting house built in 1812—is ope free from 10.30 a.m. to 5 p.m. on Tue days, Wednesdays, Thursdays, and Fr days during the months of March, Apri May, June, July, and August. At oth times the museum may be visited by th presentation of a card, which may be ob tained from the curator. A "Descriptio of the House," new tenth edition, price 1s is now on sale at the museum, 13 Lin coln's Inn Fields, W.C.2.

The National Gallery.

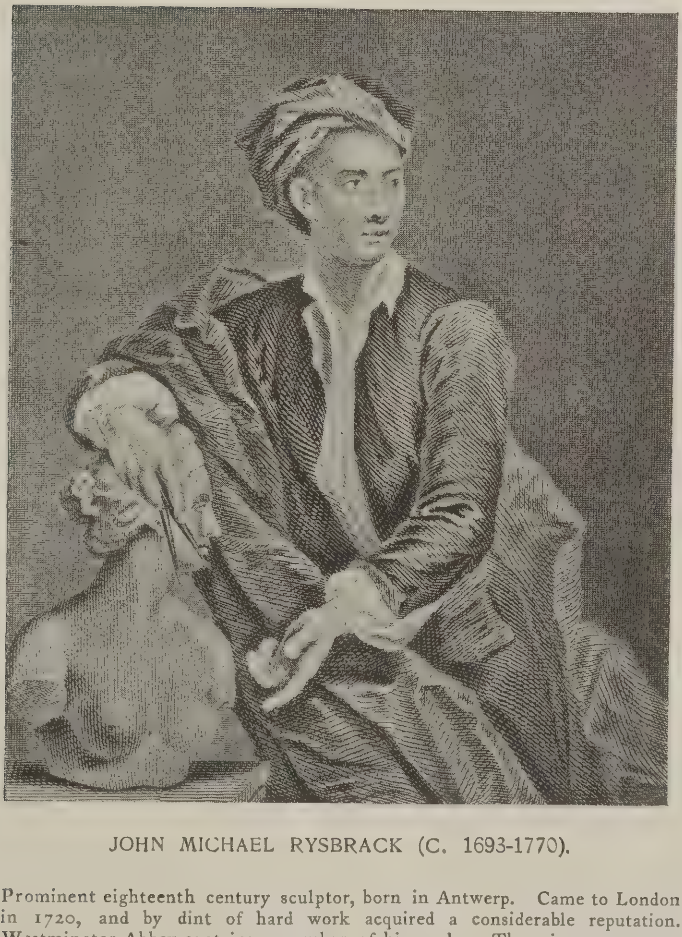
On and after April 4 the number of pa ing days at the National Gallery, Trafalga Square, London, will be increased fro two to four in each week. None of th existing facilities for educational instit tions, or for members of the National A Collections Fund, will be affected by th change, and the Gallery will be open fre to the public as before on Wednesday Saturdays, and Sundays. But on Monday and Tuesdays, as well as Thursdays an Fridays, until further notice, a entrance fee of sixpence will be charge The additional entrance fees will b devoted to the maintenance of the colle tion.

Wednesday, March 16, 1921

Volume LIII. No. 1367

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



JOHN MICHAEL RYSBRACK (C. 1693-1770).

Prominent eighteenth century sculptor, born in Antwerp. Came to London in 1720, and by dint of hard work acquired a considerable reputation. Westminster Abbey contains a number of his works. There is a monument by him at Blenheim and one at Bristol, the latter a statue of William III.

27-29 Tothill Street, Westminster, S.W.1.

Modern American Architecture. 16.—The Lincoln Memorial, Washington, D.C.

Henry Bacon, Architect

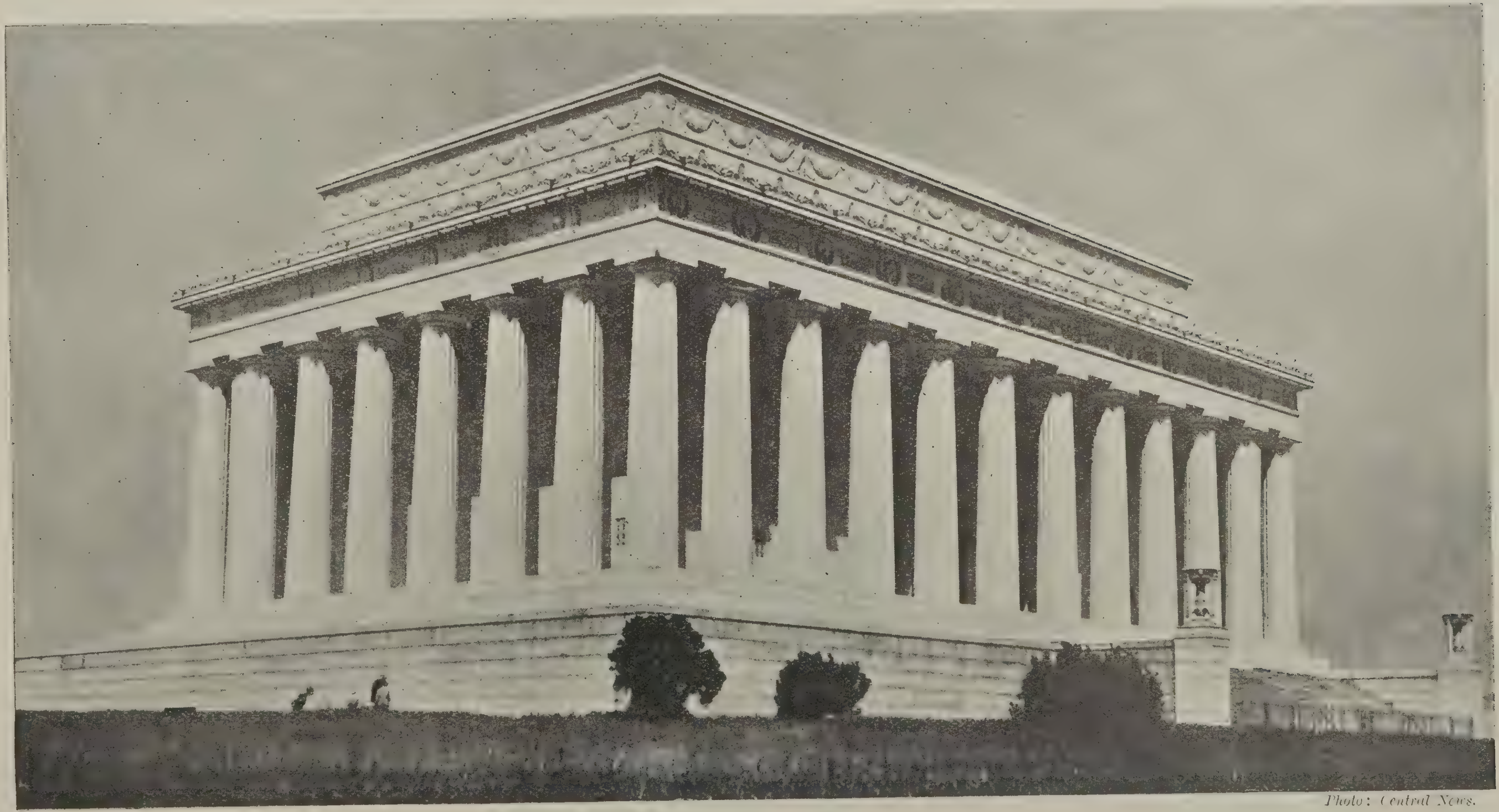


Photo: Central News.

This very dignified memorial to Lincoln has just been completed at Washington. Its principal internal feature is a great central hall, with a colossal seated statue of Lincoln, sculptured by Daniel Chester French. Some account of the memorial is given in an article which appears on page 314.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, March 16, 1921 Volume LIII. No. 1367

Notes and Comments

A Menacing Manifesto

It would be folly to ignore the trouble that is impending in the building industry, mischievous to cry "Peace!" where there is no peace. At the same time, the present menace might easily be exaggerated, and a deadly quarrel easily precipitated by a little untimely display of temper. In fact, the daily newspapers are unconsciously fomenting the quarrel by giving rather sensational accounts of the present situation. One of them, reporting the issue by the Building Trades Operatives of what it calls "a manifesto of protest against the policy of the employers," further characterises the screed as "virtually a call to arms of the rank and file throughout the industry." Certainly the manifesto does not exactly breathe the spirit of peace and good-will; but, notwithstanding its bellicose tone, the employers would be unwise to regard it as a declaration of war. "Simple silence when they brawl" would be a good policy, and perhaps a better reply, were it not desirable to correct a series of misapprehensions, not to say misrepresentations, which, if not squarely met by the employers, would place them in a false position with the public. Unfortunately, however, the accusations set forth in the operatives' manifesto are, generally speaking, not explicit, but are mainly conveyed by innuendo and suggestion, and, being as elusive as smoke, are as difficult to solidify and demolish. Their account, however, of the negotiations, or the alleged understandings, between the Cabinet and the building-trades employers goes rather beyond vague insinuation, though not beyond unfair inference and unsupported statement. To accuse the employers of "sinister intentions," and—not in so many words, but by general implication—of conspiring with the Government to weaken the trade unions, is to put a false complexion on the entire negotiations. As this manifesto has received wide publicity in the Press—the "Daily Telegraph," for instance, of March 9 printed it in full—there is no need to reproduce it in this Journal; and we are by no means sorry to omit it. In tone and in method it is a disheartening document. It exhales bitterness and provokes hostility. It imputes the vilest motives to the organised employers, who, we trust, will not be tempted to reply in the language of indignation. To respond in the same strain would be not only exasperating, but undignified. Difficult as it is to remain patient under such accusations as that "Dilution is but the bait for public consumption; the real issue is the enforcement of payment by results on an industry that has refused to accept the same," restraint must be exercised, and dispassionate reason and cold-drawn facts opposed to the misstatements and false colouring of the operatives' manifesto if the employers desire to restore the operatives to sanity and to retain the respect and confidence of the public. It should be noted, however, that the passage we have quoted seems to confuse payment by results with piecework, which are distinct things; and that, a week before the manifesto appeared, officers of the National Federation of Building Trades Employers had plainly stated (see the "Pall Mall Gazette" of March 5) that "the old practice of piecework was condemned by the employers as well as by the operatives, and that a suggestion of bonus on output is not comparable." It is believed that towards the sliding-scale proposals the London operatives were favourably disposed; but that ill-tempered manifesto is almost sure to stir up strife, unless it is firmly but genially counteracted. A little tact and a great deal of good temper and sweet reasonableness may prevent another disastrous dispute in the building industry.

How to Lecture on Architecture

In Mr. H. S. Goodhart-Rendel's "Talk About Contemporary British Architecture and its Immediate Ancestry"—which "talk," by the way, took the form of a most piquant paper read before the Manchester Society of Architects some time ago, but only just published—dainty fare is made the more appetising for a fairly free sprinkling of Attic salt. Papers on architecture do not easily lend themselves to light and airy treatment, and few authors there be who can thus leaven it. Mr. Paul Waterhouse and Mr. John W. Simpson, each in his own distinctive manner, can invest the subject with a high degree of literary grace and charm; but where are the others? Unhesitatingly it can be said that Mr. Goodhart-Rendel is one of them. (This is, of course, leaving out of account such writers in the grand manner as Sir Reginald Blomfield, who is in a class by himself, and Sir T. G. Jackson, who relumes the subject with a more lambent glow, as if he preferred lighting it by the indirect or diffusive method.) As will be seen from Mr. Goodhart-Rendel's paper, his rather caustic methods, his positive opinions, his obvious strength of conviction, are stimulating qualities; they at once arrest attention, and they not only retain it to the end, but then leave the audience wishing for more; and many of the lecturer's sayings, wise and otherwise, are so pointed and barbed that they sting like nettles or cling like burrs—surprisingly few of them chestnut-burrs. Some of his opinions will inevitably provoke opposition. So much the better: they will lift folk out of the accustomed groove and set them thinking afresh, revising their judgments in the light of another man's views, and shaking off the deadly lethargy, the "sleepy sickness," which comes of fixed ideas. Apart from mere matters of personal predilection, however, the paper is a distinctly useful outline of the salient features of modern design, from the day of Alfred Waterhouse, R.A.—to whose high merit the lecturer pays a warm tribute, leaving us with the impression that "Alfred the Great," as his contemporaries sometimes called him, was, with his winning design for the Manchester Assize Courts (1859), the only true begetter of the monumental architecture of to-day.

London University Site

Questions in Parliament about the site for London University are surely rather belated. Last Thursday, Sir J. D. Rees asked the Chancellor of the Exchequer "whether payment had been actually made of £425,000 for a site for new buildings for the London University, and, if the purchase had not been concluded, whether it could be postponed or abandoned." Mr. Chamberlain answered very sententiously. He said: "A deposit of £42,300 has been paid. The balance will be paid before the end of the month. It is not possible to postpone or abandon the purchase." An admirable exercise in laconics! These rather numerous attempts to prevent a settlement of the site question are inexplicable. What is behind them? No doubt the motives for unrest in this case are not less numerous, nor less various, than those that provoke labour unrest. One excuse for "the present discontents" with respect to the site is parsimony; another, the jealousy of other institutions that so much money—or, rather, value for money—is being given to London University; and yet a third—there may be many other dissidences, but this must suffice to end the dismal catalogue—arises from either a misconception of the functions of London University or from a desire to change them. Either it is supposed that London is like Oxford or that it ought to be, and both views are illusive. It seems to be too commonly forgotten that London University, like every other University, has its own distinctive type, its own special aims. It should, therefore, be given a special type of building—one that should by no means reflect the mediævalism of the buildings of Oxford and Cambridge, but should represent faithfully the modern spirit for which London University stands. This modern spirit, by the way, is but ill expounded by promptly closing the research laboratory on the refusal of the London County Council to continue their contribution towards its maintenance. Is it possible that the Senators of a great University can suffer from such paltry human failings as petulance and pique?

A Legacy to Posterity

The manager of the Bush Company's proposed building at Kingsway would revive a quaint old custom. He would bury in the foundations of his buildings a collection of objects that are characteristic of the time in which those foundations are made. He had been struck, it seems, by the difficulty Mr. Wells had encountered in writing ancient history—so few material survivals of three thousand years ago have come down to us. Now, the foundations of the Bush building, being constructed of reinforced concrete, will (unless they are deliberately destroyed) last three thousand years or more. Sympathising with Mr. Wells's deprivation, and wishful of providing the historian of three thousand years hence with greater abundance of contemporary detail, the Bush manager thinks of embedding in the concrete foundations a casket containing objects typical of our times. What should they be? Happy thought—why not secure the co-operation (and incidentally the autograph, to say nothing of the potentialities of advertisement implied in a name of such renown) of Mr. H. G. Wells? The catalogue of common objects that Mr. Wells suggested in his very obliging reply is too long to quote here. It includes "samples of patent medicines and what they profess to cure," a "current book on 'How to Behave,' and town maps and plans." These things and the others to be inurned with them should be carefully described and explained, lest the vastly more civilised persons of three thousand years ahead should be perplexed as to whether, for instance, the book on "How to Behave" should be taken quite seriously; for surely such a book will reveal the primitive barbarians of 1921 as incredibly ridiculous creatures; while the "town maps and plans" will confirm the impression of twentieth-century ineptitude. All this, however, is based on the sanguine but utterly unsound assumption that these ghastly relics will not be disclosed until the lapse of three thousand years. Modern buildings have no such length of days, and the Bush building will have disappeared, foundations and all, leaving not a wrack behind, about two thousand nine hundred or more years before the time scheduled for the revelation of the relics. It will have disappeared not because of any sort of instability, but because love of change, fickleness of fashion and fancy, will ordain that some different building shall take its place. So the ingenuity of the manager and the genial compliance of Mr. H. G. Wells are entirely wasted? Not at all. Remote posterity may have no reason to bless them; but, in their own day and generation, what a splendid advertisement they get out of the manager's brilliant idea. Not that this was at all the intention: it has simply cropped up incidentally, and spontaneously, as so many happy unpremeditated effects are apt to do. Foundations—or, rather, foundation-stones—seem inseparable from advertisement. The mayor, the alderman, and the pious founder, often find in the inscription the sole means of going down to posterity. Even the architect has been known to have his name thus immortalised by accompanying the names of the civic magnates, usually cut in rather smaller letters on an obscure corner of the stone.

How Fine Art Fares at Bradford

Mr. Derwent Wood is invited to try again. The male prudes of Bradford having objected to his sketch for a group of statuary for the Bradford City Art Gallery, the Libraries Committee have felt themselves obliged to refer the matter to the sculptor for reconsideration. What precisely the objection is cannot be very clearly made out; but as it is said to come "mainly from ministers of religion," the probability is that here we have yet another illustration of the shrewd saying that "to the pure all things are impure." If the cause of offence is the nudity of these statues, there is an easy way out of the difficulty. Local patriotism and parochial prudery would doubtless be alike conciliated if the statues were decently clothed in honest Bradford woollens. This would be a perennial advertisement for Bradford's staple industry; and the inconsiderable few who, through living in the murky atmosphere of Bradford, should happen to think prudery far more disgusting than nude statuary, would not be missed when they migrated to some cleaner town, where it is recognised that "there is nothing either good or ill, but thinking makes it so." No art-lover apprised of this case, and no admirer of Mr. Derwent Wood's invariably chaste and beautiful statuary, will have any other feeling towards these self-appointed censors than that of pitying contempt; while a sculptor of Mr. Derwent Wood's brilliant and unsullied reputation is in not the slightest need of either apology or sympathy. Such an absurd incident is most fittingly greeted with scornful laughter.

Another Thames Tunnel

A proposal to tunnel the Thames between Gravesend and Tilbury is altogether excellent. A railway that is to run through it will connect Manchester with Margate. There is architecture as well as alliteration in the idea. Margate and Manchester buildings will in course of time undergo a subtle interchange. Margate folk will endeavour to give Manchester visitors "a home from home," and Manchester visitors will carry home reminiscences of Margate which they will encourage their architects to express. Thus architecture ever tends to become more and more cosmopolitan—a tendency that set in quite virulently when first the railway superseded the stage-coach.

Seth Pecksniff: "The Architect, Artist, and Man"

By H. B. CRESWELL, F.R.I.B.A.

(Concluded from last week's issue.)

LAST week I had something to say about Pecksniff the Architect. Of Pecksniff the Artist it may be said at once that art for him was essentially the Social Art. He was a votary of the Arts ıd Crafts, in the respect only that he was Art- ıl and Crafty in his dealings with men and fairs and in keeping up false appearances; ıd, as we all know perfectly well, although e never say it), the Social Art is by far the ost important art in which an architect, if he is to be ıccessful, must excel. It is of no use to boggle over aking this admission. It does not require a Professor elman to tell us at six guineas a time [if he does] that ıccess depends, not on knowledge, or skill, or educa- on, or cultivated tastes, or fine perceptions; but, first, ı an obstinate exploitation of the commonplace, the ovious, the dull; and, secondly, on management of per- ns and circumstances. This is the Social Art; not to ve in manly independence of thought and habits, creation, ideas, and tastes, but to choose our environ- ent with an eye to advantage; train a chameleon mind take colour from our surroundings; adopt the traits the pack; rub ourselves like cats against the legs of l from whom we may expect benefits; ignore those om whom we may expect nothing; pull wires, and be ominently weighty whether we have ideas or lack eas.

To sum up, Pecksniff knew, as we all know if we ouble to observe and think, that insincerity is essential worldly success—by which is meant social insin- rity. Artistic insincerity is a different question. Peck- iff practised insincerity, and it is only because he came such an outrageous hypocrite in his practice of that he fell to the ground.

In this connection Dickens made two very shrewd ints. The first is that Pecksniff had come to believe his own hypocrisy; if it served his turn to pretend a ghteous indignation he actually believed, for the time, at he was moved by moral anger. Dickens well poses the intricacy of human nature here, as he does ıen he insists, as he does twice, in different parts of book, that there is a simplicity of cunning as there a simplicity of innocence; and this is the second point ferred to at the head of the paragraph. Pecksniff, ıo was sly, wary, hard, grasping, and "no fool," as s enemies admitted, was easily cheated out of his for- ne by Jonas and Tigg letting him suppose he was out to cheat others out of theirs

One of the chief activities in which Pecksniff exploited Arts and Crafts was touting. In this, and always owing for the author's exaggeration—we feel Peck- ff is our blood-brother. A good instance is given in scene where our celebrated architect goes to call at house of the wealthy brass and copper founder, to Tom Pinch's sister. Every young architect should dy this scene. He will learn more of the true nature his chosen vocation from these few pages than from ny text books. He would do well to learn the pas- ge by heart. Other scenes in the book, such as Peck- ff's methods of keeping up appearances and instilling ıfidence by presenting a plausible picture of his dition, importance, taste, culture, and engaging sim- city, are also well worth study. Dickens does not resent Pecksniff as a jobber, or a wirepuller, or he ght greatly have strengthened conviction in the minds architects. Pecksniff, in these days, would have ed pompous commonplace on all solemn occasions; uld have been seen at ceremonial dinners with knuckles on the table voicing stale insincerities h a galvanised elasticity of manner; would have ingratiated himself with a hide that ignored snubs, and propounded trite maxims (the property of every mind) in as many and as imposing words as he could command; and would have got himself elected into the governing body of learned societies by display of disinterestedness, where his lobbying, wire-pulling, and jobbery for his own advantage would only pass unnoticed because many of his colleagues were similarly engaged.

Pecksniff's hypocrisy would evince itself in these days, not in simulation of emotions, but in priggishness and snobbery. Pecksniff would be a prig—he would pride himself on being finer in feeling and nobler in motive than other men, and he would be an intellectual snob. He would certainly be a conscientious objector, so long as it helped to make him conspicuous and not unduly unsavoury to the noses of his circle; and he would be an intellectual snob. He would be too grossly intellectual to be patriotic. He would struggle in rivalry for public office, be known as secretary of committees, lay reader, churchwarden—all under the pretence of sacrificing himself to virtuous service, where in reality seeking only a jumping-off place for professional exploits in architecture.

Pecksniff the man is richly displayed in the pages of the book. Some of the telling words and phrases with which he is touched off are worth recalling. He was flabby, sleek, oily, pale as a muffin, with heavy-lidded eyes, his grizzled hair brushed back and standing up. He wore a thin overcoat in cold weather, and, after his cowardly attempt to frighten Mary into yielding to him, looked as though his boots were too big, his sleeves too long, his hat too small. His shirt collar stood open in front and exposed his throat. It seemed to say, "There is no deception, ladies and gentlemen, a holy calm pervades me." He kept one hand in his waistcoat as though he were prepared to offer his heart for instant inspection. He warmed his back as though it were an orphan's or a widow's back.

He was a moral man, a grave man. Trustfulness in sounds and forms was a key to his character. Like his own horse he made great display with no performance. He could be jocose and playful like an architectural kitten, and affected a ghastly sort of joviality, but had no sense of humour. He had, however, an almost perfect self-control, but he was a coward who trembled and shook at the knees when he had to dismiss Martin.

He was not corpulent, but liked rich living. At the inn where the coach stopped the supper was on the contract principle, so that the more you ate the better the bargain. Pecksniff and Jonas demolished everything within reach, and "by this means acquired a greasy expression of countenance indicating contentment if not repletion, which was very agreeable to contemplate." Pecksniff tippled at the bars of inns during this journey, and kept a flask filled with brandy to drink in the darkness of the coach. He helped himself to port in the vestry when he was locked into the church, and allowed himself to get thoroughly sewn up at Todger's.

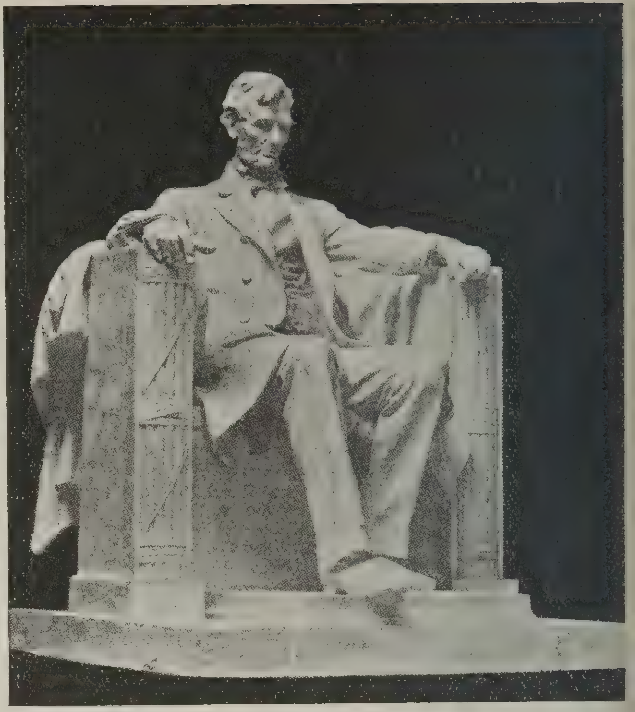
Jonas says of Pecksniff: "What a sleek, sly chap he is. Just like a tom cat, ar'nt he. (He says this to Pecksniff's daughter.) Young Martin calls him "lying," "servile," "a mat for dirty feet." Anthony Chuzzlewit, who thoroughly understood him, says: "A clever man, Pecksniff. A wary man. A hypocrite, though. I don't think the worse of him for that, unless it is that he overdoes it." We can pass over the wild abuse and vituperation showered upon him by old Martin and by the author in his capacity of showman. If Pecksniff is not true to life in the twentieth century it is because the idealism which leavened the middle of the eighteenth—the idealism that fired Dickens himself and ascribed high purpose and dignity to life—no longer exists as an accepted principle. Pecksniffian impositions would be impossible in these days; what do we care for righteous indignation? What for high motives; for courageous precepts? We should laugh in the face of the man who paraded them. The present-day Pecksniff has to accommodate himself to other ideals; the ideal of fair play inspired by envy of those who are better off than we are; the ideal of success measured by treasury notes; the ideal of not being found out.

We recognise the picture of Pecksniff brought up to date; and if the make-believe in which we choose to garb the naked facts of life and of human nature does not allow us to admit that the picture is true to life, it is because our minds are discoloured by the same pigments with which the portrait is painted. To deny that hypocrisy—insincerity—is the guiding principle of success in life is to confess oneself, consciously or unconsciously, a hypocrite.

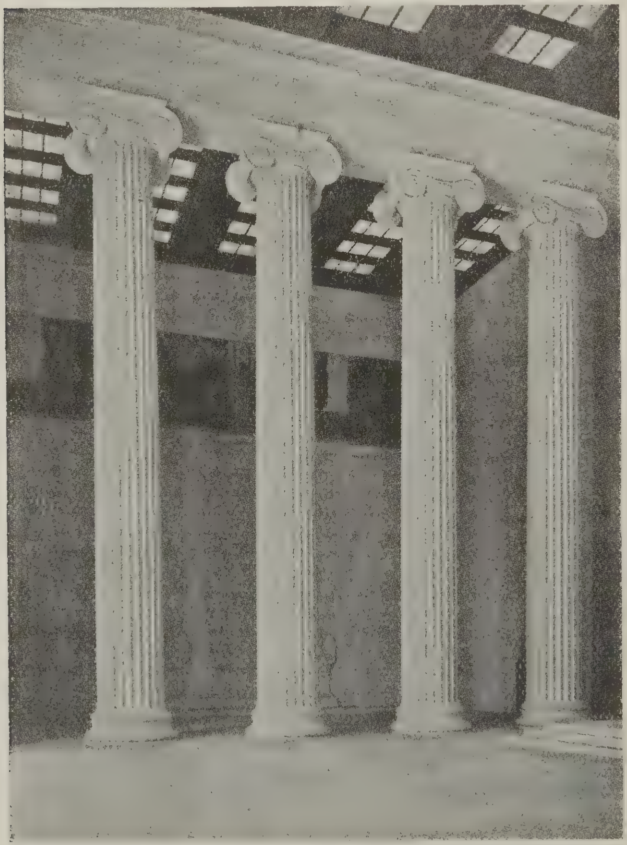
The Lincoln Memorial, Washington

THE memorial to Abraham Lincoln, at Washington, has been just completed from the designs of Mr. Henry Bacon, the distinguished American architect. For this Memorial a limited competition was held, Mr. Bacon himself preparing three alternative schemes. The one illustrated in this issue was selected as being the most suitable to the environment and as best symbolising the simple dignity of Lincoln's life and character. Of this design Mr. Bacon wrote, at the time of the competition, as follows:

"On the great axis, planned over a century ago, we have at one end the Capitol, which is the monument of the Government, and to the west, over a mile distant from the Capitol, is the monument to Washington, one of the founders of the Government. If the Lincoln Memoria is built on this same axis still farther to the west, by th shore of the Potomac, we will there have the monumen of the man who saved the Government, thus completin an unparalleled composition which cannot fail to impar to each of its monuments a value in addition to tha which each standing alone would possess. . . From the beginning of my study I believed that th Memorial of Abraham Lincoln should be composed four features—a statue of the man, a memorial of h Gettysburg speech, a memorial of his second inaugura address, and a symbol of the Union of the United States which, he stated, it was his paramount object to save and which he did save." These, then, are the fundamen tal ideas of the conception.



STATUE OF LINCOLN IN CENTRAL HALL OF THE LINCOLN MEMORIAL, WASHINGTON. DANIEL C. FRENCH, SCULPTO



ALCOVE IN CENTRAL HALL OF THE LINCOLN MEMORIAL, WASHINGTON. HENRY BACON, ARCHITECT.

The Memorial itself stands on a plateau of considerb eminence. The colonnade is 188 ft. long and 118 f wide, the columns being 44 ft. high and 7 ft. 5 in. i diameter at their base. The outside of the Memoria Hall is 84 ft. wide and 156 ft. long. The colonnade entrance to the Memorial Hall, which is 45 f wide and 44 ft. high, is equipped with slidin bronze grilles, filled with plate glass. These grille during the day will be rolled back into th space provided in the walls, and will be closed a night for the protection of the Memorial. As they ar mostly glass, they can also be kept closed during the da in cold weather without obstructing the entrance of ligh through the entrance, and a temporary bronze and glas vestibule is provided in the lower portion of th grilles, which are subdivided at the bottom for this pu pose. The central hall, containing the fine statue Mr. Daniel Chester French, is 60 ft. wide, 70 ft. lon and 60 ft. high. The halls where the memorials of th speeches are placed are 37 ft. wide, 57 ft. long, and 60 high. The interior columns are of the Ionic order and a 50 ft. high.

The north and south halls contain some fine decorati panels by Mr. Jules Guerin. For the illustrations repr duced on this page we are indebted to our contemporar the "American Architect." The illustration on t frontispiece conveys a good idea of the outward aspect the Memorial, which, in general character, has much common with the Parthenon.

Architectural Causerie: The Chippendales

(Continued from last week's issue.)

THE wealthy client of the period desired sumptuous beds with swagger enrichments, polished tables with claw feet gripping balls more tenaciously than their friends had ackled the South Sea Bubble in previous years, silks nd damasks for chairs, settees, and curtains; he eeded advice on carpets, he wished for large looking-glasses, and thought of decorations and embellishments n terms of carved work and gilding, much to the disgust of Sir William Chambers and Sir Robert Taylor, both of whom could not brook the interference of "the common upholder." Several of the rooms over the shop, f we visualise with accuracy, are replete with finished specimens of the cabinet-maker's skill. In the basements and the upper floors of the adjoining shops craftsmen and apprentices work away at the bench. Their ool-chests are neatly stowed, the prepared woods are tacked conveniently against the walls; while glue-pots of varying size stand on the hobs of the fireplaces. Bookcases, looking-glasses, picture-frames, piecrust ables, scrutoires, chairs ready for finishing, bedposts resh from the turning shop, make up the scenery. All f Chippendale's men are superior to the ordinary working carpenter, each and several have shown talents for drawing and designing, all keep an eye on the fashion of he moment, and have respect for the organising ability f their master, whose mind ranges from the current price of glue and the qualities of the shavings and parings rom the fellmongers and curriers to news of the next ship due in the Pool with a cargo of Honduras mahogany.

* * *

Chippendale Secundus had been watching the doings f the architects for many years. What Kent had chieved in the way of decorating the mansions of the eerage should be within the reach of a craftsman whose wares fetched high prices, so the honest cabinet-maker hought. Like Will Pain, the carpenter-architect, Chipendale, the artist-cabinet-maker, began to accumulate n extra stock of superfine wax candles, that did not equire frequent snuffing, for he had conceived the idea f publishing a book on design in order to secure more ustom. The eighteenth-century architects and craftsmen knew the subtleties of judicious advertisement. The "Gentleman's Magazine" for April, 1754, states: Thomas Chippendale published the 'Gentleman and Cabinet-makers' Director,' £2 8s." A year later, almost o the day, a second announcement appeared in the Gentleman's Magazine," for by this time the name of hippendale had penetrated to all parts of the kingdom, nd even to Philadelphia and Baltimore:—

"Saturday. April 5, 1755.

"A fire broke out in the workshop of Mr. Chippenale, a cabinet-maker, near St. Martin's Lane, which onsumed the same, wherein were the chests of twenty-wo workmen. Alas, poor apprentices, ye will present ueful faces to your Sallys this Sabbath."

Mrs. Chippendale, aroused by the smell of smouldering ahogany, received a great fright, for the enginemen lled by the watch were a long time bringing the manual om St. Giles, the other one, St. Martin's, being out of pair. There was no church for the family that Sunay. Far from being disconcerted or bewailing his sses, Thomas probably spent Sunday afternoon vestigating likely premises in the district as a new ace of residence, for the aggrieved Mrs. Chippendale, ho had prophesied "that the nasty glue-pots and the reless apprentices would bring all to ruin." Thomas, arkening to the distress of his helpmeet, secured o. 55-56 Great Queen Street, then vacant, perhaps ecause he liked the aristocratic character of the projecting cornice and the ornamental aprons under the windows; alas, both houses have recently been pickaxed. It is more than likely that Thomas Worlidge, the portrait painter, who frequented Chippendale's shop for frames of especial design, and who had previously lived in the Queen Street house, told the artist-craftsman of the vacancy. Thomas, nothing loth, moved his goods and chattels in without speculating on the fact (he knew no better) that Kneller had formerly lived in the house, or that Joshua Reynolds had been Kneller's pupil therein, between 1740-43.

* * *

By the year 1760, a period when the fashion for living out of town had become a habit with the smaller merchant, if not with the tradesmen of St. Paul's Churchyard, Ludgate, and Cheapside, when

> The wealthy Cit, grown old in trade,
> Now wishes for the rural shade,

Chippendale, scorning such delights, determined to enter more closely into the movement for improving the Art and Commerce of Great Britain. The Society of Arts in 1760 had quarters in the Strand, near Beaufort Buildings, and it was to this body that Chippendale applied for election. The fact is significant that he was received with open arms, for had he not made the "sitters' chair" for Reynolds? Therefore, he, as a practical working craftsman, the doyen of upholders, was qualified to gaze upon the declining frame of Edward Gibbon, the sentimental countenance of Richardson, the sententious visage of Dr. Johnson, and to rub shoulders, a rare privilege for a furniture maker of the middle period of the eighteenth century, with Horace Walpole and the Earl of Bute. David Garrick, too, perhaps, quizzed the antic movements of his fellow-member.

Chippendale's Partner

Some years previously—the literature of the day does not record the fact—Thomas had taken a Scotsman, one James Rannie, into partnership. The probability is that Rannie supplied the money, and did the hack work of the concern, leaving Chippendale to treat with rank and fashion. Between March 3 and 24 of the year 1766, after the death of James Rannie, all the stock was sold off, for henceforth Thomas was resolved to carry on business on his own account. Thirteen years later, to be precise, on November 13, the burial register of St. Martin's Church had inscribed therein by the Parish Clerk the laconic statement given hereunder:

1779.
November 13. Thomas Chippendale.

Thomas had died suddenly; he had not troubled to make a will, he had not confided his exact age to his friends. Whether he expired as a result of overwork is unknown. Judging from the number of authentic specimens of Chippendale's skill now in existence, it must have been overwork.

Thomas Chippendale III.

The house in St. Martin's Lane had always been open to Scotsmen of suitable character, for we now, in the year 1779, discover the name of Thomas Haig, who had been bookkeeper to Rannie in connection with a deed of partnership drawn up by the family lawyer between Thomas Chippendale III. and the North Briton. For five years, according to the London Directories, the firm was known as Chippendale and Haig, but after 1785 Haig ranked as senior partner until his withdrawal from the firm in 1796. After this time various dissensions occurred between the two men of opposite tempers.

(To be concluded.) AERO.

The Work of the Architectural Association

This week we illustrate representative examples of the work of the first, second, third, and fourth year students of the Architectural Association. The first-year drawing is a construction detail. Very little original design is attempted in the first year, the aim of the school being to familiarise the student with the elements which will be used later in original work.

From the second year a composition is selected. There are three of these in the year, the object being to teach students the elements of grouping, composition, mass, and values, and at the same time accustom them to the selection and handling of detail, universally accepted as good. The school finds these "compositions" to be very valuable.

In the third year purely free design is attempted, unhampered by the retention of any particular style. The sheet shown is typical work, and should be studied in conjunction with the following requirements:

The Shop Front of a Firm of Dealers in "Objets d'Art."

A firm of international reputation, which deals in objects of artistic interest, consisting of porcelain and bronze, intends to open a branch in a fashionable shopping thoroughfare in a capital city.

The object of this programme is the design of the shop front, which should be artistically treated in the finest materials and without limitations of cost.

Maximum width of frontage, 45 ft.

The maximum height to be treated, 25 ft., to first-floor level.

Drawings Required.—For sketch: Elevation, section, and plan of shop front to ⅛-in. scale.

For Finished Drawings.—The same to ½-in. scale. Rendering in monochrome.

In the fourth year the work is more advanced in every particular, and the subjects are of wide selection. Generally speaking, they embrace attempted solutions of modern problems, a point which is borne in mind throughout the whole teaching of design in the school. The design illustrated shows a student's interpretation of the following subject:

An Entrance to Regent's Park.

It has been suggested that a great approach should be made up to Regent's Park by way of Portland Place, giving a more direct connection between the park and the West End and forming a great drive-way from the Duke of York's Column in Waterloo Place via Regent Street, and Portland Place to the northern end of the Broad Walk. Portland Place is at present terminated by a garden. It is suggested that a roadway 100 ft. wide (as Portland Place) should be cut through this to the Broad Walk, and that a great architectural entrance should be erected somewhere between where this road cuts Marylebone Road and road beyond. Entrances for vehicular and pedestrian traffic are required. The space available is limited only in width, and should not exceed 150 ft

The subject of the programme is this entrance. It may take any form, such as a great gateway, archway, pylons, colonnades, etc., etc.

The following examples are suggestive:

The Champs Elysees, with the Arc de Triomphe, Paris.

The Arc du Cinquantenaire, between Brussels and the Parc du Cinquantenaire.

The Brandenburg Gate, between the Unter den Linden and the Tiergarten, Berlin.

The entrance to Rome by the Piazza del Popolo.

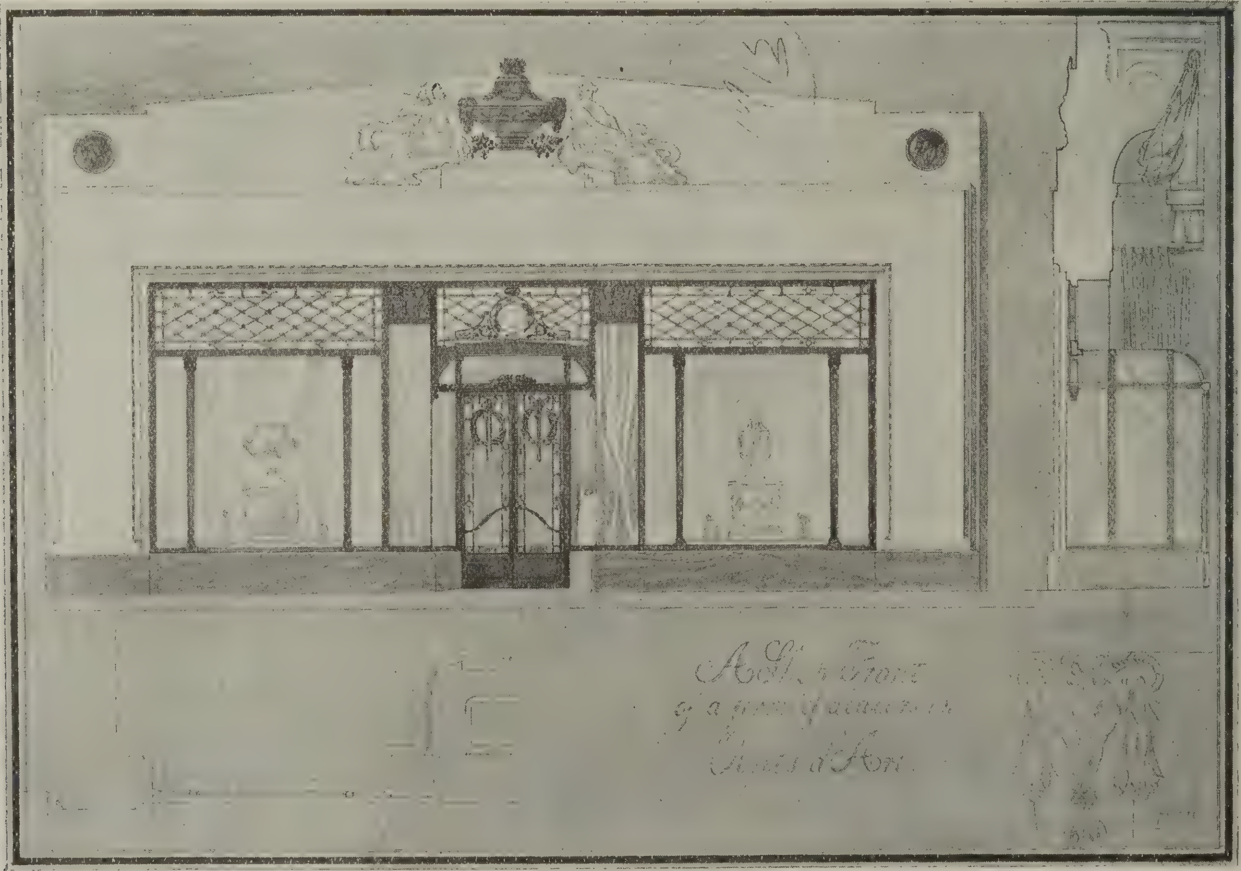
Hyde Park Corner, London.

Drawings Required.—For the esquisse: Key plan of entrance, 1-32 scale. Elevation, 1-16. For the rendu: Key plan, 1-32; elevation, ⅛. First-class fourth year to do in addition ½ in. detail of a portion.

R.I.B.A. Examinations

The following candidates having passed satisfactorily through the architectural courses at the "recognised" schools indicated against their names, have been registered as "Students R.I.B.A." The asterisk (*) denotes students exempted from the Intermediate Examination under the Special War Concession to Probationers:

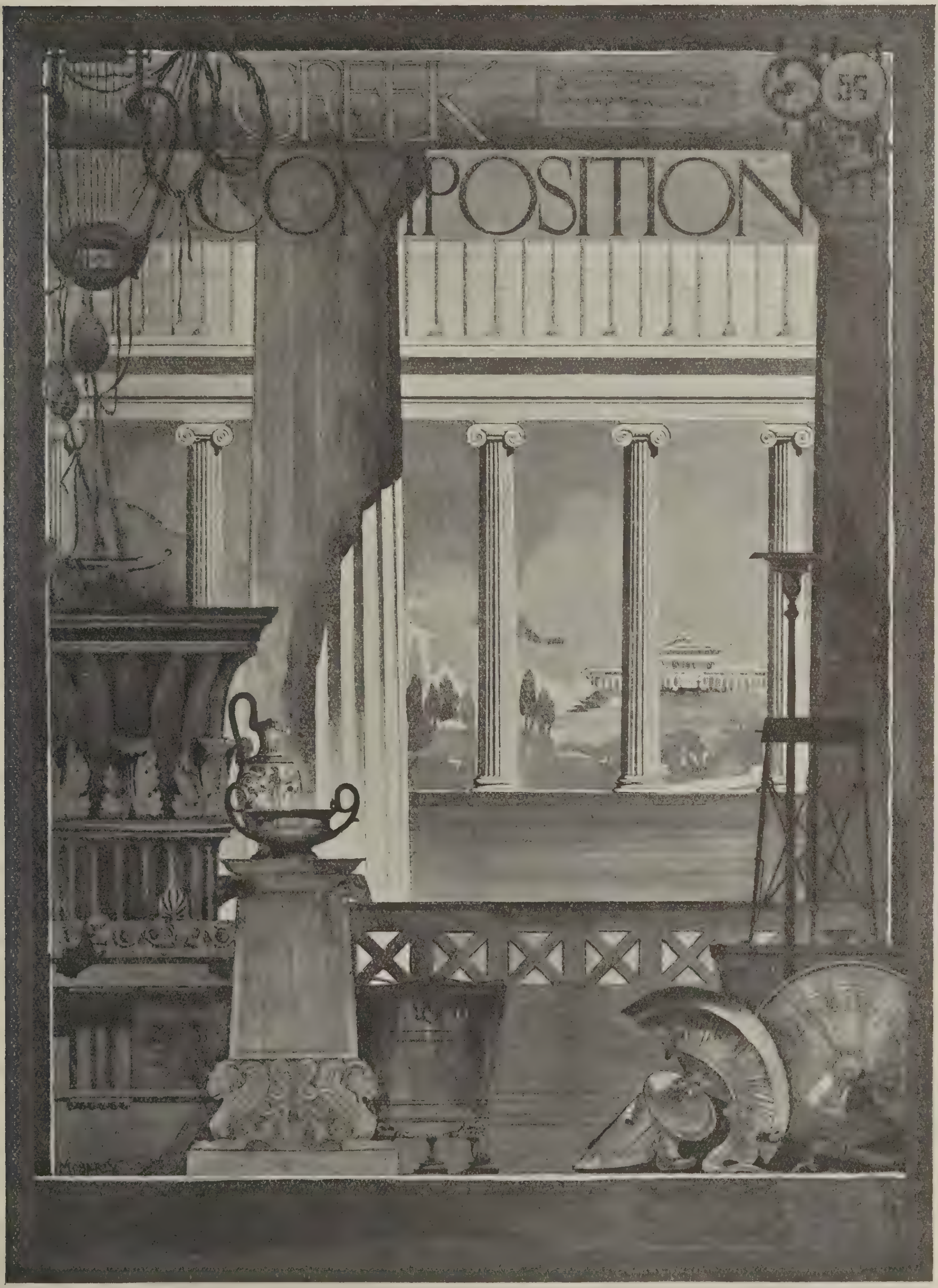
*Adams, G. E., Knaresborough.
*Bowen, W. A. F., Bradshaw, Bolton.
Burnet, F. R. (Glasgow School of Architecture), Kilmacolm.
Bateman, R. W. (Victoria University, Manchester), Manchester.
*Barber, N. A., Derby.
Bennett, J. S. (Edinburgh College of Art), Edinburgh.
Crombie, A. (Glasgow School of Architecture), Glasgow.
Edwards, W. B. (Liverpool University), Flint, N Wales.
Gilder, F. N. (Sir J. J. School of Art), Khetwadi Bombay.
*Harman, R. Strachan de Renzy, Christchurch, N.Z.
Hines, E. G. (University of London: School of Architecture), Luton.
Leverkus, G. W. M. (University of London: School of Architecture), Harrow-on-the-Hill.
Milne, J. (Glasgow School of Architecture), Hillhead, Glasgow.
*Streatfield. E. A., Weybridge.
*Turland, H. F., Northampton.
Vadnerkar, V. V. (Sir J. J. School of Art), London.
*Whitworth, R., Reading.
Wigglesworth, W. P. D. (Architectural Association), St. Albans.
Young, T. P. W. (Glasgow School of Architecture), Glasgow.



WORK OF THE A.A. SCHOOL: THIRD YEAR (FREE DESIGN. THREE WEEKS). DESIGN BY CECIL SMITH.

Architectural Designs. 9.—Work of the Architectural Association School of Architecture: Second Year (Greek Composition. Three weeks)

By Miss S. G. Moberly



This clever drawing is a typical example of second year composition work at the A.A. School of Architecture, of whose curriculum some general idea is given in the notes on the opposite page.

About Contemporary British Architecture*

By H. S. GOODHART-RENDEL

BEFORE I begin, may I remind you in self-defence that I have undertaken to deliver a talk, and not a lecture, and that the subject of the talk is nothing more definite than the contemporary architecture of our country, with some little reference to its immediate ancestry, when ascertainable. I think that this subject is wide enough to justify a very discursive treatment of it, and I propose least of all things to be either thorough or systematic in my remarks. Rather will it be my aim to present a few ideas which may be, and I hope will be, provocative of thought and discussion.

These ideas I have sorted roughly into three heaps, according as to whether they chiefly concern monumental, ecclesiastical, or domestic architecture.

There is one feature in which I fancy that British monumental architecture, at the outbreak of the late war, differed from its immediate ancestry. I think that we knew a little better than our fathers in what part of the architectural body the heart was placed. We still paid periodical visits to an architectural Clarkson's and tricked ourselves out in amazing disguises, but I think that we are beginning to be conscious that clothes were not everything.

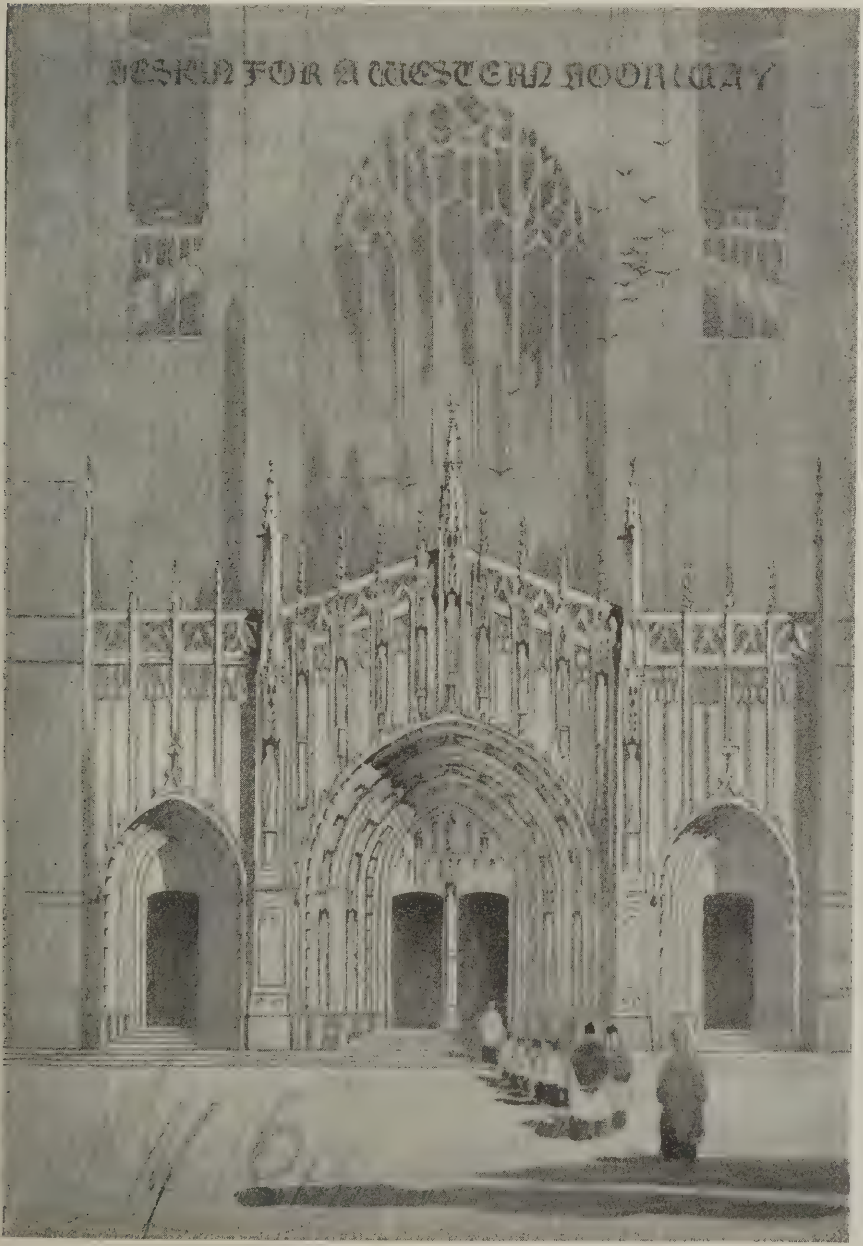
What is the architectural heart on which the sanity of the whole body must depend? Surely it is something compact of reason and order, to which all decorative considerations are subservient. It is reason and order, as brilliantly dominant in the French mind, that have given to France an unbroken tradition of architectural supremacy in public works. It is reason and order which give us axial planning, the subordination of parts to the whole, just proportion, the due expression of plan in elevation—all the things which make what the ages have agreed upon as fine architecture. Now, a great deal is written and said about these elements of our art which is patently nonsense, and I do not expect that any of us are satisfied with our position in our long climb toward truth and beauty. But, after all, it *is* written and said, and thirty years ago few people thought it worth while writing or talking about.

A lecturer on such a subject as mine, thirty years ago, would probably, with the complete consent of his audience, have spent most of his time giving tips for the latest tricks of style and detail which were likely to bring good fortune in competitions. To-day you expect me to discuss design, not petty larceny; and I do not attempt to describe what is meant by "design" since we are all agreed upon that. The only question is how to secure the power of design. Well, we have seen the Liverpool School as in some sort a pioneer, and many other excellent schools following in its footsteps. By the side of the Ecole des Beaux Arts our London and provincial schools may all seem a little suburban, but they are amazingly in advance of the standard of teaching twenty years ago.

The trouble with it all is that we are not agreed upon a vernacular style such as that which Paris possesses. I think that it is towards the formation of such a style that all our efforts, and also our self-denial, should be directed. The Paris style and teaching is, if I may say so, fool-proof; it does not hamper genius, but it *does* prevent the wanton and indecent self-revelations in which the incompetent English architect too often indulges. I think that everybody will know more or less what I mean when I say that the architectural manner which appears to have the most widespread acceptance is that associaed with the name of Sir John Burnet, and, possibly, this manner may become our stock method of design. I do not think that if this happens that we shall have any right to complain.

Sir John Burnet, whom personally I regard as artistically the head of the profession in this country, will produce great works where his followers will perhaps only produce little ones; but a training in the general method which he employs will enable anybody reasonably competent to meet most of the difficulties and exigencies of modern practice with an artistic solution at hand. We must not, of course, push conformity too far. Personally, I feel that it would be an unnecessary act of mortification for me to fall in with that preference for, shall I call it, the Assyrian, which members of this school so often betray. Sir John Burnet, if I mistake not, brought his perfect technique from France a good many years ago, and perhaps was a little influenced by the great men of that day, whereas we will more suitably be influenced by those of our own.

Let me on this subject utter a word of warning. The student who goes to Paris


DESIGN FOR A WESTERN DOORWAY

WORK OF THE A.A. SCHOOL: SECOND YEAR (GOTHIC SUBJECT. FOUR WEEKS) BY T. C. SHEPHERD.

---

* Extracts from a paper read before the Manchester Society of Architects.

to study exclusively the Neo-Grec is regarded, and I think rightly so, by the Frenchman as we should a Parisian who made a pilgrimage to England to see exclusively the works of the late William Butterfield. The days of Hittorff and Labrouste, even of Duc and Ginain, are not our days, and the modern student must, whether he like it or not, regard the works of these artists as belonging to architecture already historical.

The great fault of our modern attempts at Neo-Grec in England is that they appear in some sort conscious attempts at revival of the style of Wilkins, Hardwick, Smirke, Soane—whom you will. We do not study Cockerell, Barry, Gibson, Walters, Alexander Thomson in the right spirit. In fact, our seemingly innate vice of architectural kleptomania never deserts us, and instead of looking in the works of these masters for that which they can teach us in flexibility and modernity, I am afraid that we go nosing about for little bits that we can crib.

Dealing next with ecclesiastical architecture, Mr. Rendel observed:

In Catholic worship, whether at Mass or Benediction, it is extremely important that every person in the congregation should be able to see the altar, and that since the High Altar is normally the altar used there should be space for what may be expected to be the ordinary congregation in the main body of the building, in full view of that altar. It would therefore seem that the large rectangular hall with the altar elevated at one end of it must be the germ of the ideal plan for the Catholic church; and that, although aisles *may* and chapels *will* probably be required, the seating accommodation of these should not be taken into account when estimating the normal capacity of the building.

In Protestant worship the altar or communion table is of less importance. Some denominations have it not, and in all Protestant sects I think I am right in saying that the communion table is of less frequent use than the pulpit. The Protestant place of worship seems to me, therefore, best made of that oldest of all forms for a congregation of people, the amphitheatre. It is surely ridiculous to treat a preacher differently from a lecturer, and nobody would think of building an aisled cruciform lecture theatre, therefore why should one build an aisled cruciform Protestant chapel?

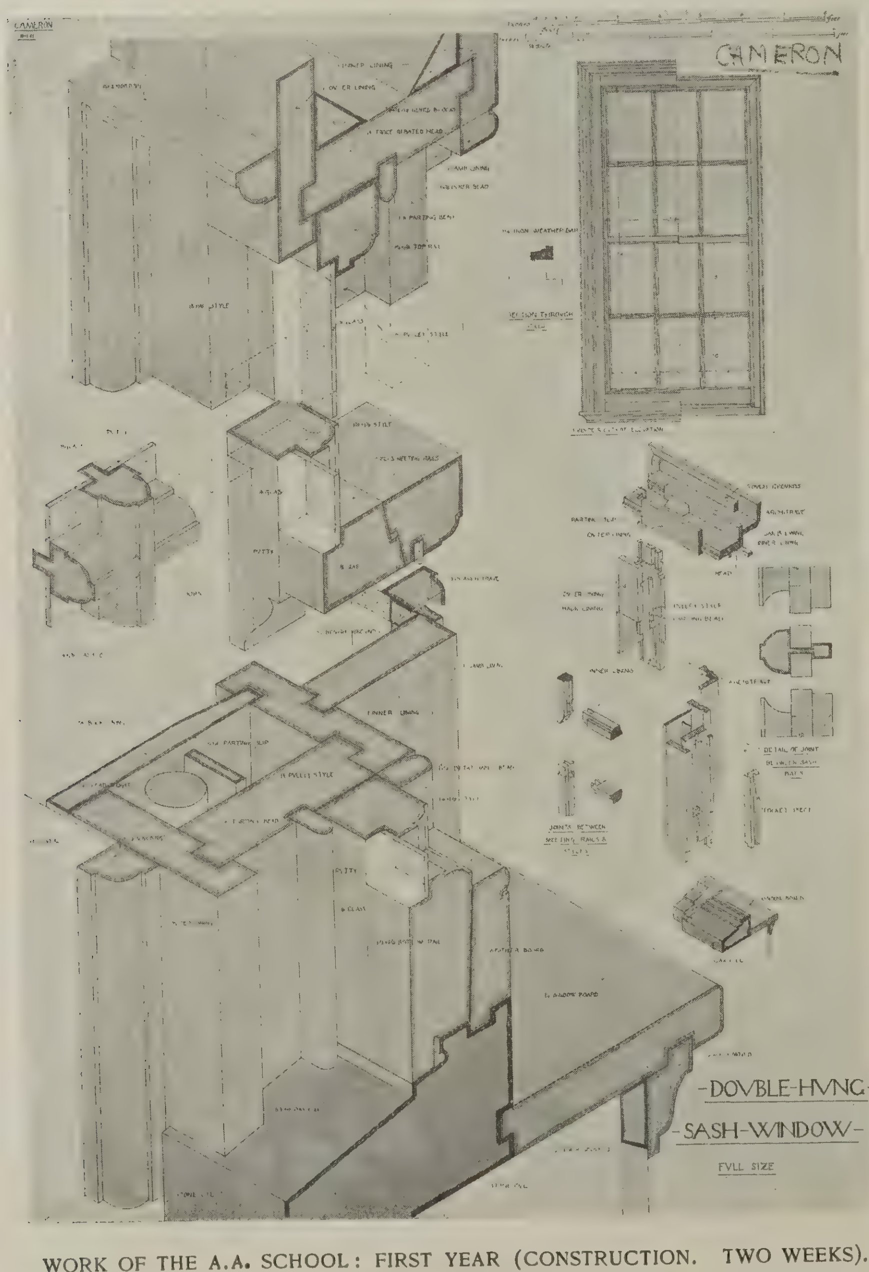
In the Church of England there are such wide diversities of practice in the conduct of worship that it is almost impossible for the architect to foresee what use or misuse of his building a change of incumbent may bring about. Certainly the strictly Protestant form of auditorium is not suitable, since that form is not easily fitted for Catholic worship. I think, therefore, that in designing churches for the Establishment it will be wise to take as our model the Catholic basilica, and so fit it as to be a good auditorium as well. During the last century a fashion for choirs consisting of men and boys seated between the altar and the people has become almost universal, but there are now signs that this is changing and that the advantages of placing the singers and organ behind the people, either in a western gallery or on the floor, are becoming widely realised.

In collegiate churches there is no doubt that the male choir, vested in surplices, is properly placed in a chancel, and no doubt many churches not collegiate will continue to imitate these arrangements. There is, however, no commanding authority for what I may call our sham choirs composed, not of scholars or religious, but just of disguised parishioners and schoolboys, and therefore the architect cannot be sure that this fashion, with no roots in antiquity, will not go as it has come. I therefore think that a defined chancel, perhaps screened off, is a mistake in any church not definitely collegiate, and I would suggest that the best model for the modern Church of England church is that in which the chancel, so called, is merely a continuation of the nave, with no structural division between the two.

My fourth and last class of church is that mediæval type of which almost every church of the Gothic revival is an example. Here, again, where the church is collegiate the type may serve well enough, though I doubt whether open transepts will ever be found to be useful in these days, and if the transepts are to be filled up with organs and vestries and galleries and such lumber, I think we should do better to build proper organ chambers and vestries or sacristies, and not to give them a transeptal form. As for the style of churches, this is a vexed question.

Churches should be as nearly everlasting as we can make them. They should therefore be vaulted rather than timber-roofed wherever we can afford this, and I think that ferro-concrete will often enable us to vault a cheap church and will conduct us to a style which will certainly not be Gothic. Now, my hope for the future of ecclesiastical architecture in England is that it may not attempt to revivify the expiring tradition of mediævalism, although I do not object to the language in which our new thoughts are clothed being a Gothic one. But I hope that all church buildings in future may be better adapted to our needs than those of the last century can be.

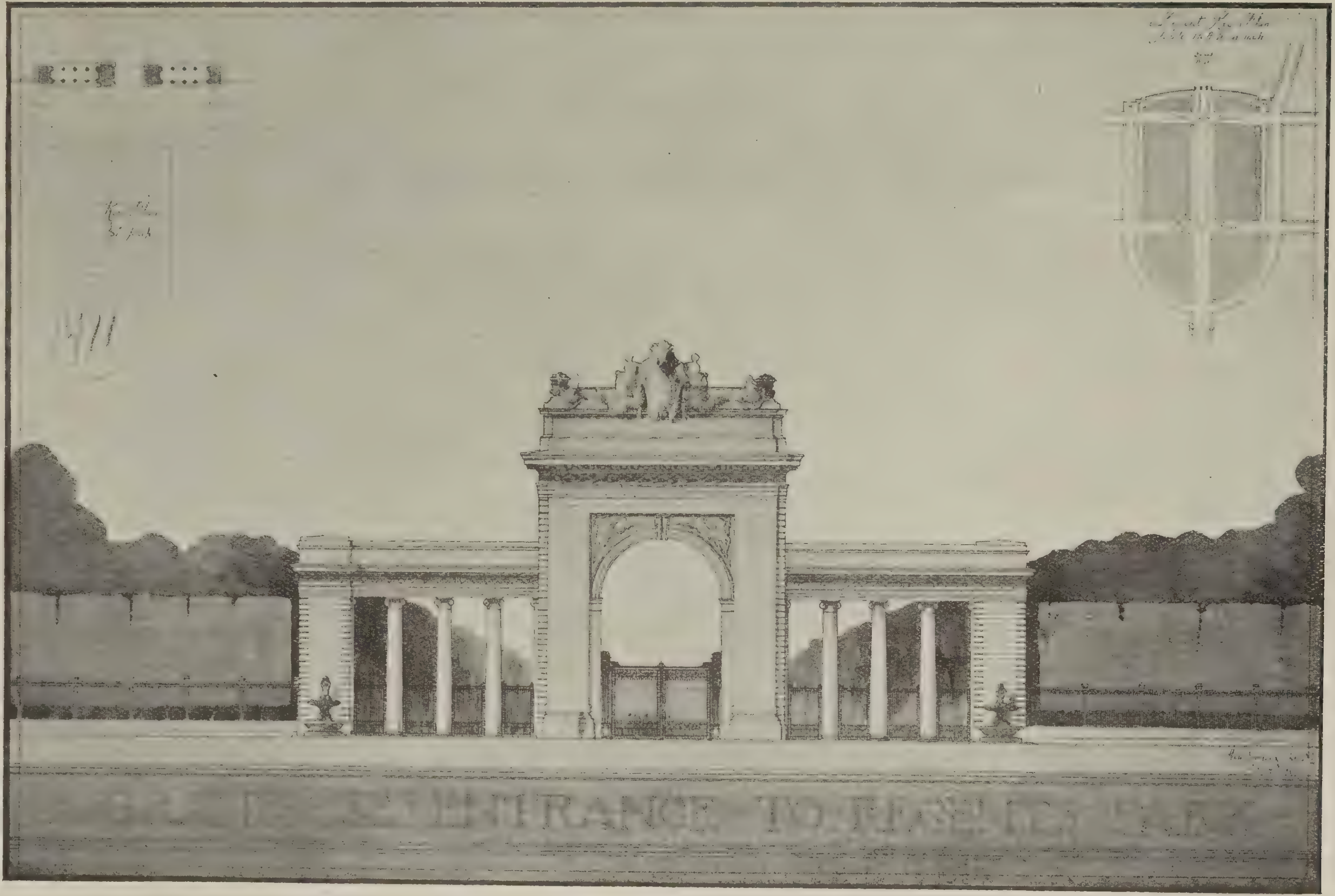
It is a comfort, perhaps, to pass from the consideration of two fields of design in which British architects have no great reason to be proud of their most recent achievements to one in which their supremacy is now unquestioned, that of small domestic architecture. This supremacy has not always been ours, although the times in which our house-builders have failed to build well coincide in the main



WORK OF THE A.A. SCHOOL: FIRST YEAR (CONSTRUCTION. TWO WEEKS).

Architectural Designs. 10.—Work of the Architectural Association School of Architecture (Fourth year. Four weeks Subject)

Design by Alan Devereux



Some account of the work of the A.A. School of Architecture is given elsewhere in this issue. The fourth year work is the most advanced in the curriculum, and the subjects set are wide in range, embracing for the most part problems of an everyday character. The conditions under which the above design was prepared are set forth on page 316.

with times of similar failure in other European countries.

Turning to domestic work, Mr. Rendel said:

It is almost impossible fairly to judge the condition of domestic architecture in England, say in the year 1880. The plans of the houses of this period are indeed commonly quite up to the standard of today in every provision for domestic comfort, save only that bath rooms were few and far between. Architecturally, to us, the greater number of them appear as no plans at all.

And yet the reaction from this school which followed in the 'nineties was not towards architectural planning. It was rather towards a sort of elaborate baldness in design. Well, that is all dead, and what are we come to now? Chiefly, I fear, to a preoccupation with that recently-discovered faculty, "sympathetic handling of texture," combined with just as irrational a practice of forcing symmetry as yesterday's practice of forcing irregularity. In the spirit of playfulness it may be justifiable enough in a small cottage to make of a summer-house and a garage twin pavilions flanking the main mass, but if done seriously this sort of thing very soon becomes ridiculous. So does the habit of gathering chimney flues from all quarters of the globe in order to bring them out of the roof in one huge central stack.

High Cost of Building in Scotland

The Committee of Enquiry into the high cost of building working-class dwellings in Scotland has held its first meeting in the office of the Scottish Board of Health, Edinburgh. Sir George McCrae, on behalf of the Board of Health, welmoved the Committee and thanked the members for their willingness to serve on this very important and what would no doubt prove to be, very onerous Committee. He stated that the Government were seriously concerned at the tremendous rise which had taken place in building costs during the last few years, and in view of the very heavy commitments of the State in their housing policy and of the serious financial condition of the country, it was of the first importance that this problem of building costs should be thoroughly examined with a view to reducing costs if possible and eliminating any extravagance that may exist. The Report of the Committee would be eagerly awaited, and he therefore urged the Committee to do everything possible to facilitate the presentation of a report.

Mr. C. W. Currie promised that no effort would be spared to produce, as soon as possible consistent with thoroughness, the Report of the Committee. He mentioned that the total financial commitment of the State on Scottish housing schemes was 17½ millions, and this figure was rising. The problem was influenced by many factors of varying importance. There were three to which he drew special attention as illustrating the fluidity of the problem: First, the fall at present in the cost of living and the effect this fall might have on wages; second, the discontinuance of the excess profits duty; and, third, the influence exerted on the minds of contractors, operatives, and the public generally by the impression that the housing problem was a matter for solution in a year or two at most.

The Committee decided to collect evidence from the various Government Departments concerned, from local authorities, trade associations, and associations of operatives and also from individuals. The Committee will receive written evidence and will examine witnesses. Provisionally it has been decided that the Committee will meet two days a week. Mr. Niven F. McNicoll, of the Scottish Board of Health, is secretary of the Committee.

Enquiries Answered

Enamels for House Exteriors.

E. C. writes: "Can you give me a few hints on the use of enamels for exterior house decoration?"

—Enamels may be used on any class of exterior work, wood, stone, or iron, provided that the surface is properly prepared. This preparation will naturally depend upon the character of the surface to which the enamel is to be applied. On woodwork the class of paint known as "under coats" are most successful. These are made from zinc sulphide, which has great body or opacity, and which spreads over a considerably greater surface than white lead does. The lead should not be used under enamels because it has a tendency to cause the enamel itself to become discoloured. A number of houses in the West End of London have been finished of late with the frames of the windows painted in white enamels, the sashes in a darker colour, of the same material, and the iron railings in front in a rich red, blue, or green enamel. This method is to be commended from the fact of the durability of this class of paint, which lasts, perhaps, three or four times as long as ordinary paint. Considering the high price of labour at the present time, this point is obviously of very great importance. It is necessary before applying any paint or enamel to ironwork to remove all signs of rust, and this can best be done by a vigorous application of specially made wire brushes, although in cases where the old paint is in a bad condition it will be necessary to burn off so as to produce a clean surface, which is absolutely essential for success. A. S. J.

Weather-proofing Cottage Walls.

W. S. M. writes: "In a cottage built of 9-in. brickwork with lime rough-cast, dampness penetrates and causes damage to the distemper, paper, etc. Will a strong cement and sand rough-cast hold to the lime rough-cast, or can the walls be made weather-proof by any other means?"

—A strong Portland cement and sand rough-cast, to which has been added "Pudlo," should hold to the lime rough-cast and be effectual in keeping the cottage dry. Alternatively, the lime rough-cast, if in good condition, adhering well to the brickwork and covering it effectively, could be treated with three coats of "Lillington's" damp-proofing liquid. With buildings in an exposed position, with their walls especially, if the bricks are very porous, it is advisable to apply to the external surfaces a good damp-proofing liquid to make them impervious to driving rain. This is more effective than rough-cast, and will not affect the colour of the material, but simply fill up the pores and form an impervious surface. W. S. B.

Plate Girder Design.

B. G. A. S. writes: "Is it necessary to deduct rivet holes in the compressional flange of a plate girder to arrive at the effective area of the section? In almost all cases I have found an equal area of solid metal in both the tensional and the compressional flange, but I deem that the rivets themselves act against compression in the compressional flange; therefore this particular flange needs less metal than does the tensional flange."

—It is customary, as our correspondent suggests, to take the gross area of compression flanges, and the net area of tension flanges, in designing plate girders, deducting rivet holes ⅛ in. larger than the nominal diameter of the rivets. Strictly speaking, this should involve an adjustment of the neutral axis, and the calculation of an unsymmetrical moment of inertia. This refinement is, however, seldom made; and even for railway bridges it is not unusual to take the section modulus as the flange area multiplied by the depth over the flange angles. For the calculation of compound girders with staggered rivets, one hole in each flange is often deducted and the section assumed to be symmetrical, otherwise the labour involved in calculation would be prohibitive. P. W.

British School at Rome

At the meeting of the Royal Commission for the Exhibition of 1851, held at the offices in Lowther Gardens, Exhibition Road, the Prince of Wales was installed as President of the Commission in succession to Prince Arthur of Connaught. The office was held by the King and King Edward when Prince of Wales, and by the Prince Consort. One of the most important underakings of the Royal Commission is the British School at Rome, and the services it has rendered to contemporary art are well known. The Prince of Wales presided later at the meeting of the Council of the school, when the Executive Committee was elected as follows: Lord Esher (chairman), Lord Plymouth, Lord Harcourt, Sir Rennell Rodd, Sir Frederic Kenyon, Mr. George Clausen, Mr. J. S. Sargent, Sir Thomas Brock, Sir George Frampton, Sir Aston Webb, Sir R. Blomfield, Sir Frank Short, Mr. D. Y. Cameron, Professor J. S. Reid, Mr. Arthur Smith, Mr. John Penoyre.

On the Faculty of Architecture were elected Sir Reginald Blomfield, R.A., Litt.D., F.R.I.B.A., Sir John Burnet, R.S.A., LL.D., F.R.I.B.A., Mr. H. Chalton Bradshaw, A.R.I.B.A., Rome Scholar in Architecture, Mr. W. Curtis Green, F.R.I.B.A., Sir Edwin Lutyens, R.A., F.R.I.B.A., Mr. Ernest Newton, C.B.E., R.A., F.R.I.B.A., Professor C. H. Reilly, O.B.E., F.R.I.B.A., Mr. Gilbert Scott, A.R.A., F.R.I.B.A., Mr. John W. Simpson, President R.I.B.A., and Sir Aston Webb, K.C.V.O., C.B., P.R.A., F.R.I.B.A.

Death of M. de Lasteyrie

The death is announced of M. le Comte Robert de Lasteyrie, Membre de l'Institut de France, and an Honorary Corresponding Member R.I.B.A. M. de Lasteyrie succeeded Quicherat in 1882 as Professeur d'archéologie du moyen-âge à l'Ecole des Chartes, and he held this position until his resignation in 1911, when he became Professeur honoraire. His most important work, "L'architecture religieuse en France à l'époque romane," was published in 1912.

Training the Woodworker*

By Alex. B. Mitchell

Future craftsmen are handicapped by the sub-divisions of trades caused by present-day conditions, with the inevitable result that they only become efficient in the particular part allotted to them, and unacquainted with the beauties and possibilities relative to the craft as a whole. Mass production is the enemy of "craftsmanship," therefore we must try to replace by some means the evils created by the one-man one-job system.

The apprentice may not be entirely free from blame for the position in which he now finds himself, owing perhaps to a lack of interest in his work, or, which is very often the case, an over-indulgence in sport, to the exclusion of his future craftsmanship; but trade unions have not taken the trouble they ought to have done in cultivating the sense of importance, and interest, required to produce the highly-skilled members of these organisations, which I hope will yet appreciate the seriousness of their obligations regarding the training of apprentices in their craft. Speed in production is another factor which does not improve matters, so far as highly skilled work is concerned.

Early Stages of Apprenticeship.

Taking the case of a five-years' apprenticeship in woodwork, the first thing to be thoroughly understood by youths is strict obedience to the instructors. When the student has commenced bench work, after having served a few months in cleaning the shop and going messages, it may be assumed that he has acquired sufficient general intelligence and knowledge for the particular craft adopted, apart from any technical information, which should be specially selected now. Too much science may not be good for the products of the craft, and many of the mechanical principles underlying the use of tools can also be dispensed with.

The classes held in some of the continuation schools which specialise in architecture and building construction are to be recommended at this juncture, and they also prepare the apprentice for the more advanced classes held at Glasgow under the personal instruction and good guidance of our very esteemed member, Professor Gourlay.

The apprentice should make a study of botany, particularly the everyday timbers of commerce used in woodwork, which study should at least be sufficient to give him reliability, in judging the most suitable materials for any particular job he may be required to execute, and draughtsmanship should now be a continuous practice.

The importance of scale should be properly fixed in the mind of the apprentice, who should study instances of the representative fraction, such as the relationship of any particular drawing to the completed object. Freehand drawing should by no means be neglected. In addition to encouraging accuracy, which in due course is applied to the apprentice's constructional bench work, it assists him to become a more efficient workman in all matters relating to measurement, which, in turn, trains the mind through the eye. This has given rise to the saying that all artist craftsmen measure only with their eye. Be that as it may, the lines of beauty seen in the works of the old masters in the craft have never been excelled and seldom equalled.

Geometry, with its special applications to woodwork, should now, on entering the fourth year's apprenticeship, be frequently practised to enable the mind through the eye, assisted by the hand, to retain as many impressions as possible.

The study of design, based on geometry, should be felt rather than learned. It is impossible to design by geometry alone, though the work may be based upon it. For instance, in the case of a repeated angular pattern, the angles of the sides are determined by the taste of the designer, which is another way of saying by his sense of the geometrical relationship which is secretly governing the parts.

During the next year the students, while assisting in constructional work, should examine and give reasons for the use and positions of the various joints which they have been taught to use. They should also be required to explain how they would overcome difficulties encountered in similar objects, the construction of which has been rendered different owing to variations in design.

When the apprentices have acquired the feeling of possession of full confidence, provided they have obtained sufficient knowledge in sound construction and the general principles involved, an opportunity should be given them to express themselves in some simple object, which should be carried out entirely by themselves. This will help them to understand their own responsibility with regard to any work which in future they may be called upon to execute.

Detail drafting could be easily assimilated immediately after the five years have been served. Detail drafting must necessarily imply a knowledge of design and detail which demands skill, accuracy, and keen observation, always to be practised to be proficient, as no amount of theorising can ever be a substitute for practice. Nothing is easier to the craftsman than to put all his energies upon one part of his work at one time. This should not be done. The true craftsman will first of all think it out in theory, then work it out in practice, then he ought to know and feel the effect and value of all parts of his work at the same time. By such methods is the training of the craftsman's judgment accomplished. Another very profitable study for our young journeyman would be the classic orders of architecture, with special reference to their application to woodwork. Style in woodwork ought to be taken up now, with interior woodwork design and decoration.

MR. ALEX. B. MITCHELL.

Continuation of Study Desirable.

The apathy of many journeymen craftsmen makes one think they are going to lose all their dignity and self-respect if they continue the study of the craft. Many of our most famous architects did not think of personal dignity or pride when the craft was their thought. Not only did they make a special study of woodwork, but supervised, aye, and executed, some parts with their own hands. Some of the finest examples extant to-day are works that have been studied minutely by these men—for instance, the brothers Adam, who have left the style of that name, perhaps the most beautiful, expressive, and delicate, without being vulgar or obtrusive in any way.

There are many more subjects which ought to have a place in the advanced curriculum of the woodworker, especially those who would like to assume the reins of supervision, such as the conversion and measurement of timber, with the modern seasoning processes, shop management, and the proper disposition of machinery. I do not ask anyone to neglect tradition, nor yet be a slave to precedent, but I would insist that deeper study and greater interest be now taken in the works of the past masters.

Under the various welfare schemes I understand there would be no difficulty in giving instruction for a number of hours each month, in special classes, by special practical instructors, inside or adjacent to the works, where the instruction given bears direct relation to the actual jobs in hand at any specified time. It would then be possible for the duration of apprenticeship, at least during the daytime and carried on in conjunction with the excellent evening classes for selected purposes, to acquire a greater amount of knowledge in a much shorter time than would be possible under the older conditions. The above is practically done by a large firm in the North of England, who not only encourage but assist in the acquisition of the elements of "Craftsmanship."

---

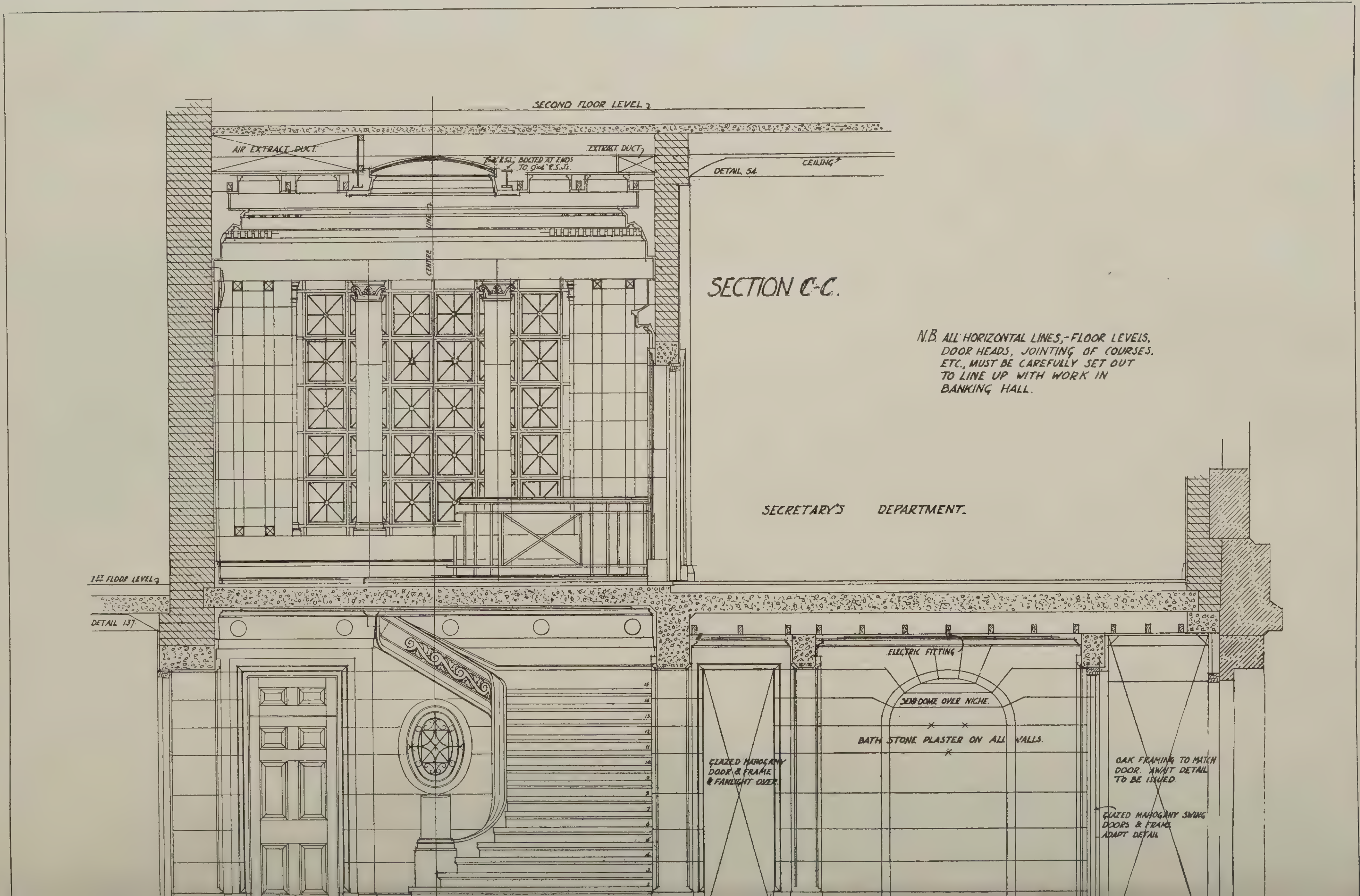
* Extracts from a paper read before the Royal Technical College Architectural Craftsmen's Society, Glasgow.

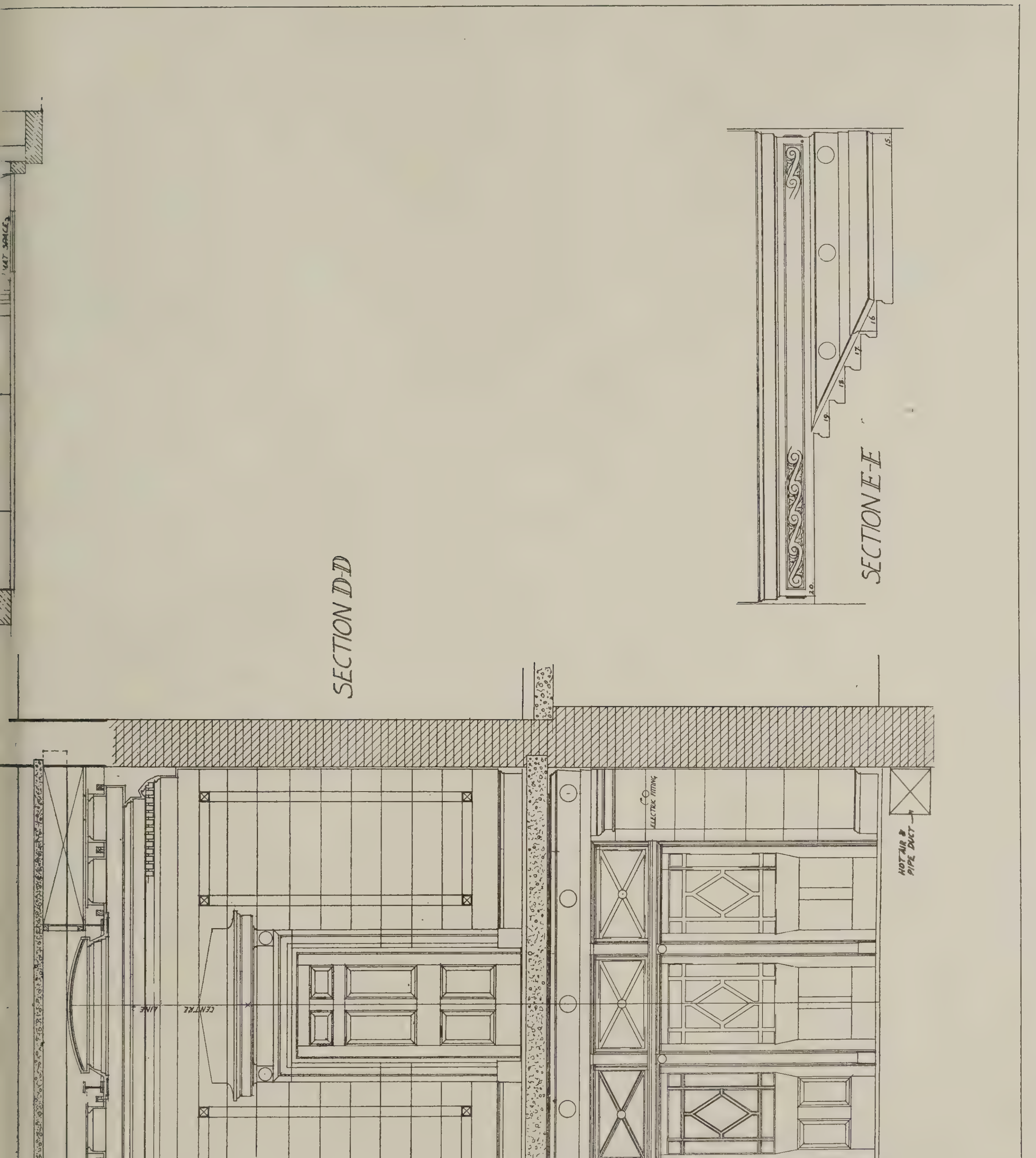
Liquid Fuels Research Association Approved

The Secretary of the Department of Scientific and Industrial Research announces that the British Research Association for Liquid Fuels for the Oil Engines Industry has been approved by the Department as complying with the conditions laid down in the Government scheme for the encouragement of industrial research. As the Association is to be registered as a non-profit sharing company, the promoters have applied to the Board of Trade for the issue of a license under Section 20 of the Companies (Consolidation) Act of 1908. The Secretary of the Committee engaged in the establishment of this Association is Mr. Percy Still, M.I.E.E., M.I.P.T., 19 Cadogan Gardens, London, S.W.1.

Architects' Working Drawings. 30.—Munster and Leinster Bank, Cork : Sections of Staircase Hall

Arthur and Henry H. Hill, FF.R.I.B.A., Architects


SECOND FLOOR LEVEL
AIR EXTRACT DUCT
EXTRACT DUCT
BOLTED AT ENDS TO 9×4 R.S.Js.
DETAIL 54
CEILING
CENTRE LINE
SECTION C-C.
N.B. ALL HORIZONTAL LINES,-FLOOR LEVELS, DOOR HEADS, JOINTING OF COURSES, ETC., MUST BE CAREFULLY SET OUT TO LINE UP WITH WORK IN BANKING HALL.
SECRETARY'S DEPARTMENT.
1ST FLOOR LEVEL
DETAIL 137
ELECTRIC FITTING
SEMI-DOME OVER NICHE.
BATH STONE PLASTER ON ALL WALLS.
GLAZED MAHOGANY DOOR & FRAME & FANLIGHT OVER.
OAK FRAMING TO MATCH DOOR. AWAIT DETAIL TO BE ISSUED.
GLAZED MAHOGANY SWING DOORS & FRAME. ADAPT DETAIL



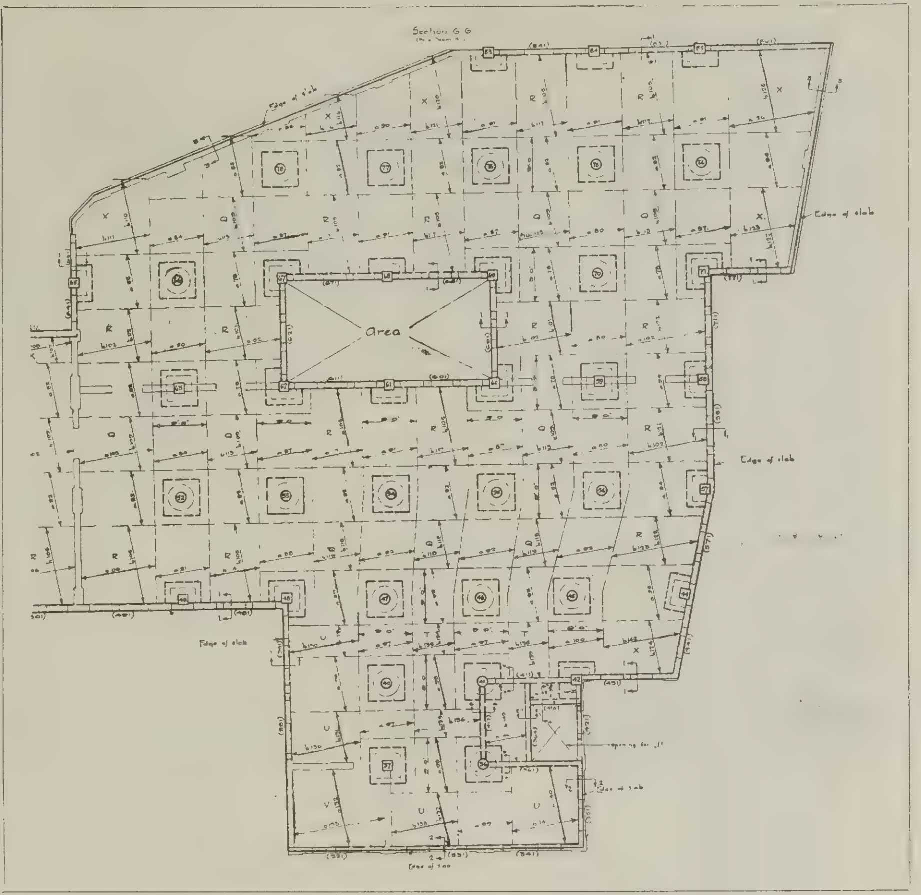
A notable feature of the fine new bank which Messrs. Arthur and Henry H. Hill have erected at Cork, is the staircase hall, sections of which are shown above. The drawing should be studied in conjunction with the one which appeared last week, and both in relation to the plan of the building, which was given in our issue for March 2.

Construction. 17.—"Girderless" Floors

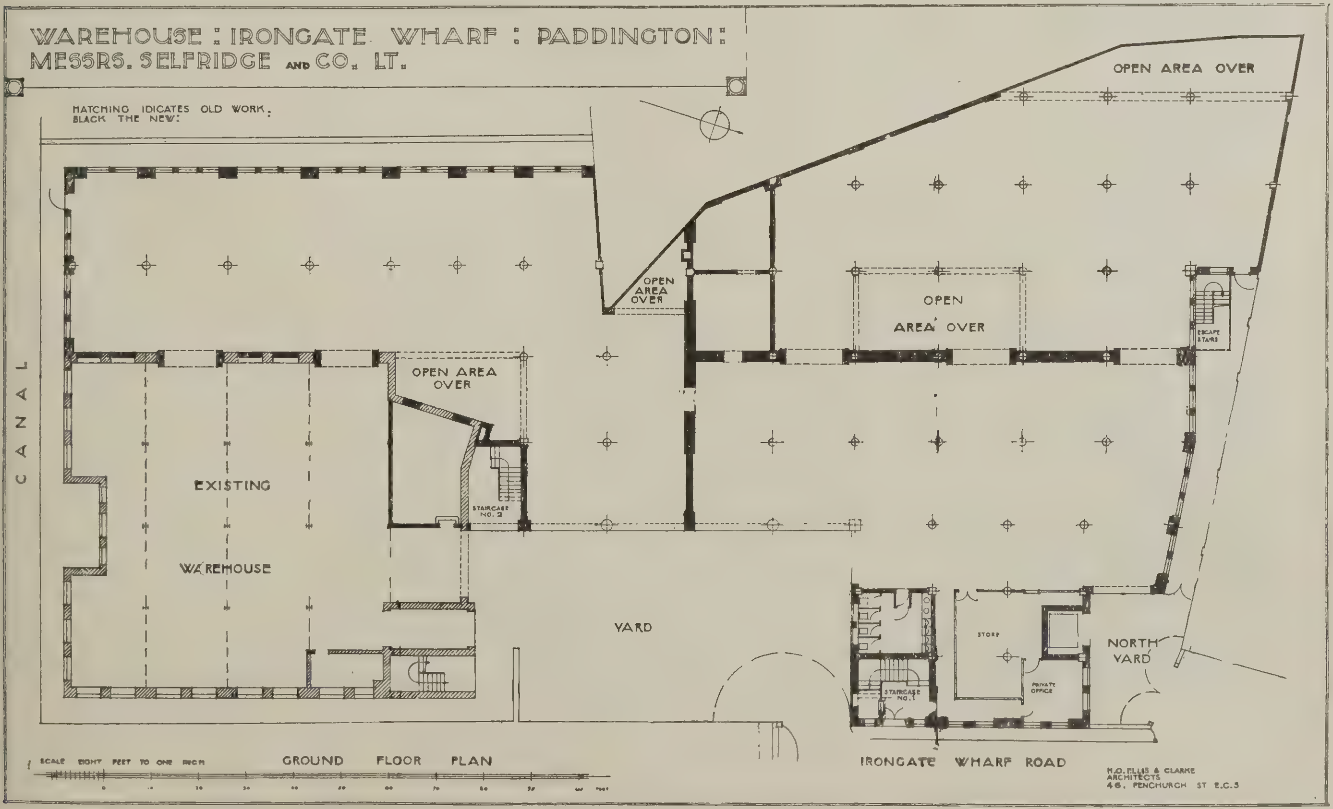
THE accompanying plans and details illustrate the reinforced concrete work for the new warehouse and garage building which has just been completed for Messrs. Selfridge, Ltd., at Irongate Wharf, Paddington, London. The ground floor of the building is used as a garage, and the upper floors as a warehouse, the various floors being made of ample strength to carry merchandise and heavy goods, such as paper and cardboard. It will be seen that a girderless type of floor construction (designed by Mr. S. Bylander, engineer) has been adopted. This enables the ceiling to be kept flush, and the omission of beams results in increased head-room and improved lighting. The method of construction also facilitates the fixing of pipes and conduits for electrical installation, and besides giving a pleasing appearance ensures a strong building.

Girderless construction is obviously suitable for a warehouse or factory building, when service and utility are the chief considerations. Large windows and good lighting from skylights are obtained wherever possible. The pillars are circular on plan and are provided with an enlarged cap immediately below the floor slab; by means of this flared-out cap the necessary strength is provided to the floor construction, and makes it possible to eliminate projecting beams.

The method of construction is shown on the plan and in the details. The foundation base is the usual one, and the column and pillar is made circular, being reinforced with a series of round steel bars and steel wire hooping. In order to facilitate erection, the vertical bars in the base



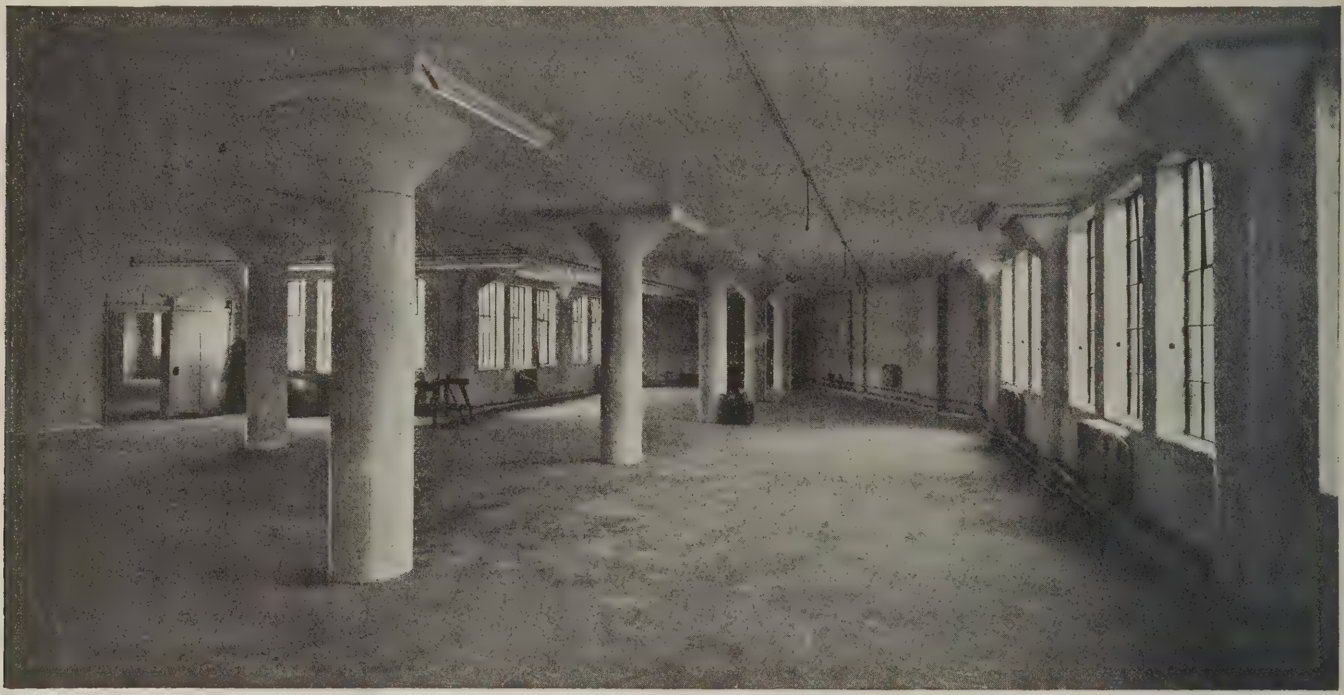
PLAN OF WAREHOUSE, SHOWING POSITION OF PILLARS.

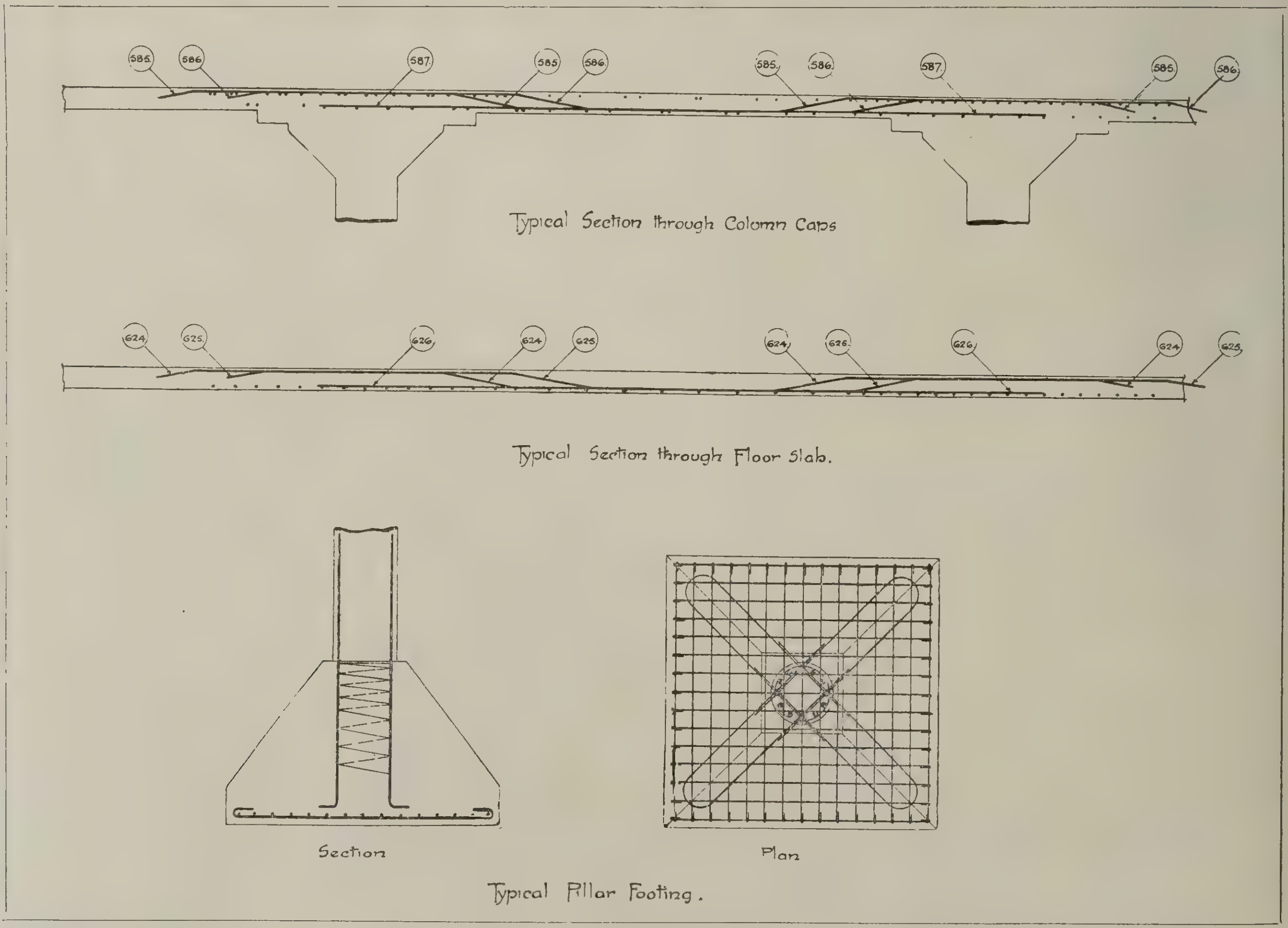


PLAN OF WAREHOUSE FOR MESSRS. SELFRIDGE AND CO., IRONGATE WHARF, PADDINGTON.
H. O. ELLIS AND CLARKE, ARCHITECTS.

are spliced, the longitudinal bars in the pillar also being spliced at each floor level. The floor slabs are reinforced with round steel bars running in both directions. These bars are bent up at points of support, and are placed at the bottom of the slab at the centre of the span; a greater effective depth is obtained near the pillar cap, where the bending moments are greatest. On page 329 is shown the arrangement provided for constructing an area in the middle of the building, where a system of depressed beams is adopted along the edge of the opening, providing compensation for the strength taken away by leaving an opening.

In the slab construction, ordinary round steel bars are used, held together at the intersections by wires for the purpose of securing the bars in correct position while concreting. The form work is flat and can

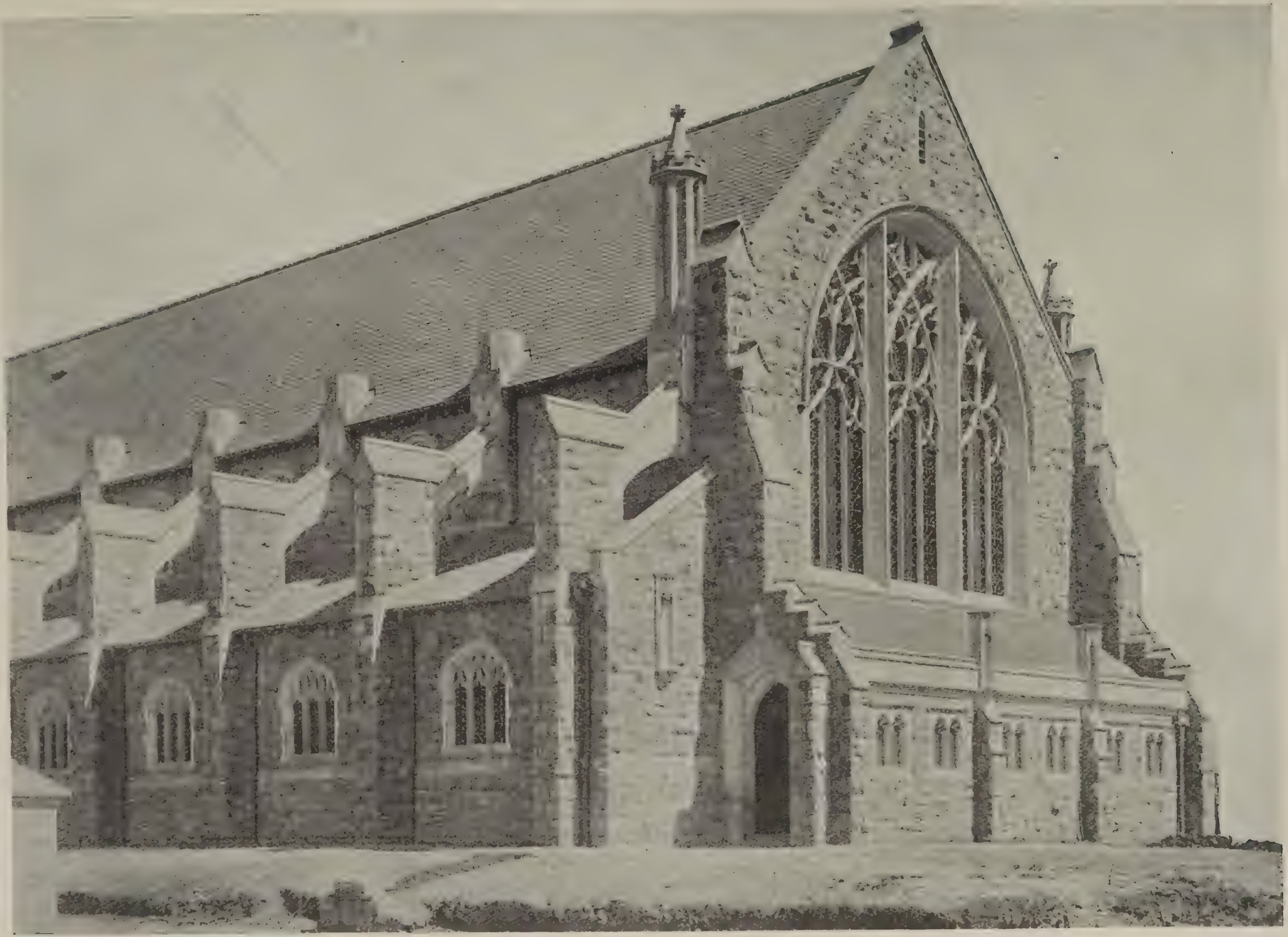




WAREHOUSE FOR MESSRS. SELFRIDGE AND CO., IRONGATE WHARF, PADDINGTON: GENERAL VIEW OF INTERIOR AND DETAILS OF "GIRDERLESS" OR "FLAT-SLAB" CONSTRUCTION.

Modern Ecclesiastical Architecture. 12.—St. Mary's Church, Highweek, Devonshire

The Late Edmund H. Sedding, F.R.I.B.A., Architect



The late Mr. Sedding's design for St. Mary's, Highweek (placed first in competition), was completed at a cost of about £10,000. The external walling is of reddish coloured limestone, Corsham stone being used for the windows and for the wrought stonework throughout, including parapets, weatherings, and "flyers" of the buttresses. The west window is about twenty-five feet wide, two large chamfered mullions, each 2 ft. wide, dividing it into three compartments.

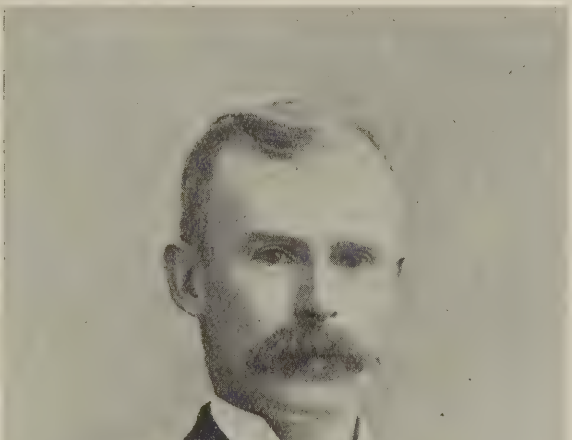
be standardised. The work is easily inspected, as it is open to view, and the whole of the slab is concreted in one operation. The joints between the various portions of the slab concrete are made vertical at the centre of the span by placing a stopping board along the centre line. The bars are relatively far apart and permit easy placing of the concrete, both in the slab and in the pillar cap. The bars are carried at their proper level on chairs near the pillar cap to ensure their being held in the proper position during concreting. A combination of beam construction and flat slab construction may be adopted where conditions demand it; this applies to staircases and lift openings and areas.

The upper plan reproduced on page 329 illustrates the method of marking the reinforcement on the plan, where every bar of a different shape is given a number, which number will be found on the "Bar Bending Order," showing the detail dimensions for bending the bar to the exact shape and length. Details of pillar are also provided, showing the exact sizes and location of the reinforcement. A key is provided on the plan to indicate the type of panel employed for each location. The floor has been severely tested by piling up merchandise from floor to ceiling, and has proved to be capable of more than meeting the demands that were intended to be made upon it. So far there are no definite by-laws in London dealing with the requirements for the design of this reinforcement, but such will probably be provided in the near future.

It is interesting to note that in flat slab construction the effect of the twisting of the slab must be considered, and not only the bending of same, as in the case of a beam. The concrete slab is capable of developing a considerable resistance against twisting, and by experiments it has been found possible to employ less reinforcement for a series of panels than if the slab had acted as a beam. For unequal loadings of various panels provision must be made for the bending of the column, and the diameter of same must not be too small; for that reason the construction is more suitable for several storey warehouses than for single-storey buildings.

The architects are Messrs. Ellis and Clarke, London, the engineer Mr. S. Bylander, London, and the contractors Messrs. F. D. Huntingdon, Ltd., London.

Anti-Hydro has been used throughout the building, and has been found by Mr. F. D. Huntingdon, not only to be very satisfactory for hardening floors and preventing dusting, but to be particularly efficient as a waterproofer. Anti-Hydro is a liquid, and is altogether distinct from other forms of concrete hardeners and waterproofers. It can be mixed with concrete by unskilled labour, and may be used on all forms of concrete and stucco work. When used with concrete, an increased strength is obtained. Floors in which Anti-Hydro is embodied are acid and alkali resisting, and remain unaffected by oils and grease. Mr. Huntingdon, who has investigated the uses to which Anti-Hydro had been put in America, successfully adopted it in the construction of the retaining walls at Messrs. Selfridge's new premises in Oxford Street, London, illustrated in our issue for February 18, 1920.



THE LATE MR. EDMUND H. SEDDING, F.R.I.B.A.

The Late Mr. Edmund H. Sedding

Mr. Edmund H. Sedding, F.R.I.B.A., to whose death a brief reference was made in our last issue, passed away in London on February 21. His last illness was only discovered to be of a serious nature at Christmas, after which time he rapidly grew weaker. He had great artistic ability, and many beautiful churches have been carried out from his designs, mainly in Devon and Cornwall. He has been buried at St. Crantock, Cornwall, in the holy ground of the church which he restored some years ago—an extremely interesting building to which he was deeply attached.

Mr. Sedding gained the first R.A. Medal for measured work in 1884, and in the following year he won the R.I.B.A. first medal for measured drawings. In 1886 he took the English Travelling Studentship for design at the Royal Academy, and in the following year was awarded a special Pugin Medal for sketches. He was articled to John D. Sedding, upon whose death, in 1891, he set up an office in Plymouth.

Four of his best measured drawings, namely, those of the steeples of Grantham, and St. Magnus, London Bridge, are hung on the walls of the Black and White Room, South Kensington Museum.

He restored the churches of St. Kevergne, St. Mawgan-in-Meneage, St. Blazey, Marhamchurch, Lansalles, St. Ives (partial), St. Erme, Falmouth Parish Church, Morvah, Tremaine, Chasewater (reconstruction), Lanteglos-by-Fowey, St. Crantock (the two latter schemes were completed). Large additions were made to the Home of the Epiphany at Truro, and later the Chapel was carried out from his design. The same year—1907-8—Lis Escop was enlarged, and the chapel added during the Episcopate of Bishop Stubbs, for whom he also designed the Diocesan Pastoral Staff; the crook and figures were executed by George Sedding (killed in the war). The wood for the staff was provided by the late Bishop from the old Ely stalls. At St. Germans Priory Church the great east window and the massive west door, with its bronze work, were carried out for the Countess of St. Germans. Additions were also made to St. Ladock. The towers of St. Gennys, Cardynham, and Fowey were repaired. The design for the new Training College Chapel was carried out about the same time.

"Hengar," the seat of Sir William Onslow, Bart., was designed anew after the disastrous fire, when a valuable ring was found among the debris encased in molten glass.

Careful restorations of the old Cornish screens were made at St. Madron, St. Winnow, St. Budock. At St. Buryan a restoration was also made of the splendid coloured sixteenth-century screen, the Gothic detail of which is interwoven with work of Renaissance type.

New screens were designed for the fine churches of St. Mary Magdalene, Launceston, Fowey, Stratton, St. Crantock, and St. Erth. In the latter church the south chancel aisle was very elaborately fitted up with carved reredos, altar, roof, screens, and carved benches, in memory of the Hawkins family. In one bench end a careful portrait of Bishop Stubbs, with mitre and staff, is depicted in high relief.

In Devon he restored the churches of Broadhempston, Marwood, and Kingston, and the elaborate reredos at Ermington; and important screen work was designed by him at St. Mary Tavy and Shaldon.

The large church of St. Mary, Highweek, was won in competition, and was built at a cost of about £10,000. In 1910 the drawing was hung in the Royal Academy.

In Somerset he made complete restorations at Mark Weare (for Mrs. Luttrell, of Badgeworth Court), and Pawlett, ably assisted by his partner, Basil Stallybrass.

In Norfolk he partially restored the churches of Haddiscoe and Wheatacre, and in Suffolk the church of Great Bricet; in Essex the Parish Church of Rayleigh and Bowers Giffard.

In 1906 the Primate of New Zealand, Bishop Neville, who was in England, selected Mr. Sedding's design for his proposed new Cathedral of Dunedin, and in 1908 Mr. Sedding went out to see the site, which is in a commanding position, with a slope of no less than 22 ft. in the length of the building, which is about 220 ft. long. The original design has been entirely altered, and the nave has already been erected. The full designs of the cruciform building, with a massive central tower, have been provided.

Different kinds of Oamru stone have been used for the nave and vestries, which are underneath, and all other materials have been utilised from the colony. The cost of the nave was about £30,000.

Over the west door effigies of Bishop Selwyn, Bishop Harper, and Bishop Neville have been placed in niches, executed by the firm of Pinwill, of Plymouth. The consecration ceremony took place during the latter half of 1919, when a large representative body from all parts of the South Island was present.

The work is now being carried on by Mr. Basil Stallybrass, his partner, at 12 Queen Anne Terrace, Plymouth, who has for many years been intimately associated with, and a trusted representative of, the Society for Protection of Ancient Buildings.

Weekly Housing Report

The number of houses erected under the terms of the Government grant to private builders now exceeds 10,000. Payments were made during the week ended March 4 in respect of 446. The total number of houses covered by certificates A is 30,686, the Government commitment now standing at £7,444,993. The number of houses upon which the grant has been paid during each month from April last to February of this year indicates excellent progress. The figures are: April, 2; May, 43; June, 128; July, 384; August, 457; September, 801; October, 948; November, 1,120; December, 1,546; January, 2,189; February, 1,951.

New housing schemes submitted to the Ministry during the week ended March 4 numbered 10, bringing the total number of schemes submitted to 11,528. The schemes approved now number 9,016, and comprise about 57,764 acres. Thirty layout schemes were submitted, and 29 were approved during the week, bringing the total number of lay-outs submitted to 7,375, and number approved to 6,826.

House plans, representing 1,471 houses, were submitted, and plans for 892 houses approved. During the week tenders were submitted for 865 houses. Tenders for 491 were approved, bringing the total number of houses in tenders submitted to 191,791 and in tenders approved to 177,773. Contracts have been signed for 150,829 houses.

Correspondence

Architecture and Commerce

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Selfridge's address at the Architectural Association on "Commercial Architecture" received wide notice in the public Press, and it is perhaps fortunate that Mr. Selfridge tactfully confined his remarks to the shortcomings of commercial patrons.

It is undoubtedly true that ignorant or indifferent patrons restrict the opportunities of architects, and may prevent them doing the best work that they are capable of. But can this be made an excuse for really bad work? Short of ignorant and dictatorial interference in matters of design on the part of the client, and weak acquiescence on the part of the architect, I cannot see that the client can be held responsible for really bad design.

If all architects were fine designers in addition to their other necessary qualifications, it would be impossible for patrons to find architects capable of erecting bad buildings.

It is interesting to notice the quality of architecture produced in this country during the period of individualism which has prevailed now for nearly a century, during which every man has been encouraged to "express his individuality" in any style, or lack of style, he chooses. That fine individual work has been done no one can deny, but these efforts stand out as exceptions, and the average quality of work has been extremely poor and far below the standard reached in previous ages.

I attribute this to lack of collective effort. The fine work of past ages was produced when tradition was a living force, and tradition seems to me to be collective effort and collective thinking; architects worked on parallel lines, were inspired by the same ideals, and accepted the work of their predecessors as a starting point for further developments; the result was cumulative.

In science we have these conditions operating at the present day: such as, for instance, mechanical engineering. Anyone who has watched a large, complex machine at work cannot but feel astounded at its amazing complexity, and wonder how the brain of man is capable of such ingenuity. Yet this is not, and could not be, the work of one man's inventiveness; it is the cumulative result of many men's work extending over generations, every individual adding his small contribution, and in the end producing a result far beyond the power of a single individual to conceive.

In architecture independent individualism has had a good run, and has given us so much bad architecture that it seems necessary to look about for new methods. Is it not time to change our system and to get back to collective effort? This is not possible under the pupilage system at present, because every office ploughs its lonely furrow and goes its own sweet way regardless of what others are doing; but it is to large schools, such as that at the Architectural Association, that I think we may look for an improvement in this respect, because here we do get collective effort and collective thinking.

A school forms a tradition of its own, and when the students take their places in the profession as practising architects we shall have groups of architects, trained under similar conditions, inspired with common ideals, and influenced by a school tradition common to them all.

It is too early yet to see the result of this system in England, but, judging by the results obtained in America, where this group education has been in longer operation, I feel confident that as soon as it has been given time to make its influence felt the general average quality of architecture in this country will very considerably improve.

For this reason alone the Architectural Association School seems to me to deserve the whole-hearted support of the profession, and, indeed, of all interested in the welfare of architecture.

It is the largest architectural school in the country, it is run entirely by the architectural profession, and it is now compelled to issue debentures to the tune of £20,000 to pay for absolutely necessary extension of premises. Need I say more?

G. GILBERT SCOTT.

Architectural Education

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of March 9 there appeared a summary of my lecture on "Architectural Education," delivered before the Birmingham Architectural Association on February 25. The summary concluded by attributing the following views to me:

"In the space of five years there is not sufficient time to teach more than one style, and the principal of the school should decide on the most suitable, and teach it thoroughly in all its aspects, ignoring other styles entirely."

As this is not in any sense an accurate representation of what I actually did say, may I be permitted to attempt to correct the impression which it—unintentionally, no doubt—conveys?

The points which I endeavoured to make in regard to stylistic training in schools of architecture were:

(1) That for a school to limit itself to a single style was from every point of view unfortunate. (In this connection I cited the Liverpool University School of Architecture as the victim of an unfounded but persistent legend to the effect that the school restricted itself to the teaching of one extremely narrow and intractable manner, the Néo-Grec—an accusation that was not now and never had been true.)

(2) That a school of architecture, if it is to give to its students conviction and certainty of aim, must make and adhere to a decisive choice of some general broad tradition, comprising a variety of related styles—such as is comprised in the classical tradition or in the mediæval.

(3) That, as the maximum length of time which the majority of students can be expected to spend in a school of architecture is from five to six years, it is not in any event possible within that time to inculcate the principles and methods of more than one broad tradition of design.

It will be understood that this policy of concentration is intended to apply only to the teaching of *design*. The archæological study of all traditions and styles should form an integral part of any complete architectural course: but for that purpose the lecture-rooms, library, and museum of a school exist as sufficient instruments. The school studios should be devoted exclusively to the development of an elastic but consistent tradition of design and to constructional work.

Which tradition should be selected in any given instance depends upon a number of considerations. As things are, the selection must in most cases lie wholly in the hands of the individual directors of the schools. That the choice should be so personal a matter is obviously open to serious objection—the absence of any sort of guarantee of continuity being not the least of the disadvantages which the existing system involves. One may reasonably hope, however, that, as the academic movement in architectural education gathers force, the University schools of architecture will develop into Faculties, and the choice of tradition in design will then in each case be the collective decision of a group of professors, and will have for that reason solid authority and permanence.

LIONEL B. BUDDEN.

The Journal Plates

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As one who for many years has sprung the nimble "tuppence" (nowadays the less nimble sixpence), for the price of your more than excellent Journal, may I utter a word of praise—and of regret: praise of the selection, style, and value of your plates; praise, too, of the ever-increasing interest of your letterpress; regret that the plates are no longer loose.

No doubt there are weighty reasons why the plates are pinned into the body of the make-up; but their value is somewhat decreased, perhaps, by loss of ease in classification for filing and reference. It was my custom to classify them into groups in loose dockets and to file the dockets in suitable sized boxes, as a less cumbersome, less space occupying, and less dusty item in the ever-growing congestion of limited office accommodation than the storing of bound volumes. Now, alas, to keep that system running it is necessary to damage the plates either by cutting or the withdrawal of the pins. Would it not be possible to revert to the older method of loose plates?

SIXPENCE WEEKLY.

[We are very grateful to our correspondent for his suggestion. Our three main objects in adopting bound-in plates were as follows:

(1) To simplify binding in volume form (loose sheets had to be specially stitched in, thus adding to the cost of binding).

(2) To avoid incorrect insetting of plates or, worse still, their total omission—a mishap occasionally brought to our notice.

(3) To make the Journal a neat and compact whole, loose plates always being something of a nuisance, especially in the case of a paper that, besides having to lie about for ready reference on architects' drawing-boards and tables, goes also to the public Press in performance of a definite educational function.

Binding-in was adopted only after very careful consideration had convinced us of the desirability of the change. We shall be very glad, however, if other subscribers will give us the benefit of their views on this subject.—EDS. A. J.]

Book Notices

An Engineering Pocket Book.

Building is so closely related to the other arts and crafts that it is almost impossible to pick up a technical text-book without finding information of use to some section of the industry. The pocket book and diary under review, which is intended for the engineer, is no exception to the rule, and embodied is a great deal of valuable information with regard to the various types of gas and oil engines and their management; ventilation and heating; pipes, beams, girders, and columns; gas for heating and lighting; acetylene for lighting. Useful hints are included on the design of workshops. The pocket book, which also contains a buyers' guide in French, Spanish, and Russian, has been thoroughly revised and brought up to date.

The "Practical Engineer" Mechanical Pocket Book and Diary, 1921. Thirty-third year of issue. Net Price cloth 2/-, best binding 2/6 The Technical Publishing Co., Ltd., 1 Gough Square, Fleet Street, London, E.C.4.

London Master Builders' Handbook.

A portrait of Mr. G. M. Burt, president of the London Master Builders' and Allied Industries' Association, and a likeness of Mr. S. Smethurst, J.P., president of the Institute of Builders, are prefixed to the 1921 issue of the "Master Builders' Handbook and Diary," which is the official year-book of the Association. It is an extremely useful little book, into which is compressed a large amount of exactly the kind of information that makes it invaluable for frequent consultation by the practical builder. Lists of members of the Association, a list of officers of the Institute of Builders, the Association's half-yearly report, and other useful lists are included—of Employment Exchanges and of London District Surveyors, for example—besides many useful tables of weights, measures, and money; whilst a useful blank-paper diary is appended.

The Master Builders' Handbook and Diary, 1921. The official Year Book of the London Master Builders' and Allied Industries' Association. London: 4 Catherine Street, Aldwych, W.C.2. Price 2s. 6d. net.

Oil Fuel in the Kitchen Range.

Since the experiments in 1861 of Werner, a Russian mechanic, who devised a crude apparatus to raise steam by liquid fuel, the use of oil fuel has been considerably developed, notably in relation to marine engineering, locomotives, power plants, etc. It is doubtful, however, whether any serious attempts have been made until recent years to apply liquid fuel to the ordinary kitchen range. In the past the cost of liquid fuel in all forms, compared with that of coal, has probably retarded development of this method in England, but overseas, in oil-producing countries and the Far East, there should be a wide field for its extended use. In Egypt, owing to the high price of coal during the war, many engineers unsuccessfully devoted a great deal of time and money to the problem, and eventually it was found that a type of burner, of simple construction, designed to burn the exceedingly heavy residues from the Anglo-Egyptian oilfields, could be easily adapted to the kitchen range. This type of burner was applied in Cairo to kitchen ranges in the Kasr-el-Aini Government hospital and at the Turf Club, and the results obtained surpassed the most sanguine expectations. The success attained naturally led to the development of a large size for boiler furnaces, and the author states that it was soon found that those features which made the burner efficient were magnified when applied on a large scale. Mr. Bowden Smith deals with his subject in a practical, comprehensive, and interesting manner.

Oil Firing for Kitchen Ranges and Steam Boilers. By E. C. Bowden Smith, M.I.Mech.E. Price 9/- net. Constable & Co., Ltd., London.

Institute of Builders' Annual Dinner

The annual dinner of the Institute of Builders was held at the Hotel Victoria, London, last week. Among those present were Messrs. Samuel Smethurst, J.P. (chair), A. W. S. Cross (Vice-President R.I.B.A., E. J. Sadgrove (representing the Society of Architects in the absence of Sir Charles Ruthen), Sir Banister Fletcher, F.R.I.B.A., Professor W. R. Lethaby, Professor A. E. Richardson, Messrs. J. J. Joass, F.R.I.B.A., E. T. Hall, F.R.I.B.A., Peter Dollar, F.R.I.B.A., William Woodward, F.R.I.B.A., E. Fiander Etchells (President of the Concrete Institute), Charles J. Smithers, F.R.I.B.A., Sir Henry Tanner, F.R.I.B.A., and Mr. Ian MacAlister.

Mr. F. J. Gayer, who proposed the toast of "The Architects and Surveyors," said the last few years had been particularly trying for the profession as well as for the trade. But now that the Armistice was two years old, one thought they had a certain right that the industry should become normal once more. They found, however, that certain Government Departments were trying to take still further hold of it and gobble them all up. Not only were those Departments supplying plans and carrying on building, but they were endeavouring to control building-trade labour, but that they would find a very tricky matter.

Mr. A. W. S. Cross responded, and said how harmonious had been the relations between architects and the Institute of Builders before the war. Now there appeared a rift within the lute, and the relations between architects and builders were not what they were, and not what they should be. The new form of contract was one of the disturbing matters, and he regretted that the R.I.B.A. had not been called in to take part in its drawing-up. The architects and builders should come to terms with one another: their interests were absolutely identical, and it seemed nonsense that good relations should suddenly, and without rhyme or reason, come to an end. As it was, they were drifting from bad to worse. He did hope that the cloud between the two Institutes would soon pass away.

Mr. John Macfarlane proposed "The Institute of Builders and its President," and Mr. Samuel Smethurst responded.

Mr. A. J. Forsdyke, responding to a toast of "The National Federation of Building Trades Employers" (proposed by Mr. H. Matthews), said the Society of Architects had been extremely fair in its criticism of the proposed National Building Code, but the R.I.B.A. had not been so accessible. He was quite sure, however, that ere long the R.I.B.A. would fall into line, and architects and builders would be able to discuss the matter. The builders wanted only fairness to themselves and the building industry.

The toast of "Our Guests" was proposed by Mr. F. G. Rice and responded to by Mr. F. J. Minn.

Societies and Institutions

Royal Institute of British Architects.

At the last election of Members the President, in moving the election of M. Albert Louvet as hon. corresponding member, announced that the Council had decided that from henceforth the existing number of hon. corresponding members should not be exceeded, except in the case of the United States, where the number would be increased from ten to twelve, and Belgium, where it would be increased from three to four. Otherwise elections to this class would only be made in order to fill vacancies arising from death.

Proposed Changes in the Charter and By-Laws.

The proposals brought forward for the alterations of the By-laws respecting Hon. Associates, the curtailment of the period qualifying for Retired Fellowship, and the creation of a non-professional class to be called "Subscribers," has received the assent of the General Body. The President, in moving the resolution, said that in view of the probability of much more extensive alterations to the Charter and By-laws which might result from the labours of the Unification Committee now sitting the Institute would not be involved in any separate expenditure for the present proposals. If carried they would be taken as the opinion of the Institute, and would be incorporated with other alterations to be made in the constitution later on.

Mr. D. B. Niven, F.R.I.B.A., thought the subscription too low, and moved as an amendment that the annual subscription be two guineas. He recalled that some sixty years ago the Institute had a class of members called contributing visitors who paid two guineas per annum. This class became merged into the Hon. Associateship, and hence arose the anomaly of these honorary members paying a subscription.

Mr. H. A. Welch, A.R.I.B.A., seconded the amendment, and asked why the new class should not be allowed to indicate their connection with the Institute? The benefit to the Institute and to architecture would be greater if their association with the Institute could be signified in some way.

The President said he thought it would be a dangerous thing to allow any authorised affix which would give the impression that "subscribers" were members of the Institute in the ordinary sense. It was difficult enough already to separate the lay from the professional members.

Mr. Sydney Perks, F.S.A., F.R.I.B.A., said that the point raised by Mr. Niven had been considered by the Finance Committee. Naturally, they wanted to get as much money as possible. But they thought they would get more money by making the subscription one guinea, as they would get probably three times the number of subscribers. Their idea was also to spread the influence of the Institute. These people would be entirely non-professional. They would be free to come to the lectures and to use the library. Ladies would be eligible; and they hoped to get a large number of influential people—Members of Parliament and others—who would have the interests of the Institute at heart. Subscribers ought to be regarded as non-professional and non-associate, their connection with the Institute carrying no label at all. He thought they would do better to make the subscription a guinea.

The President agreed with Mr. Perks. It would be better, he said, to have two members at a guinea each than one member at two guineas. The lower the subscription the more likely was this class of membership to be taken up. A man might not mind paying one guinea, but would think two guineas too much. He deprecated the use of any authorised affix; it must be purely a lay membership.

Mr. Septimus Warwick, F.R.I.B.A., hoped that care would be taken not to cheapen these admissions. They did not want too many in under this head.

The President, answering Mr. W. E. Vernon Crompton, F.R.I.B.A., said that "subscribers" would have to come up for election. Machinery would be devised for the purpose.

Mr. Niven's amendment having been put to the meeting and lost, the original motion was then put and carried nem. con.

Cottage Hospitals.

The lecture on "Cottage Hospitals," delivered at the R.I.B.A. on Monday last by Mr. N. Percy Adams, F.R.I.B.A., was of unusual interest to the general public, and should be of great value to those who have to deal with the provision of new hospitals in the near future. Mr. Adams, who is one of the best-known hospital architects in the country was the designer of Newcastle Royal Infirmary, Bristol Royal Infirmary, the King's Sanatorium, Midhurst, Warneford Hospital, Warwick, Woburn Cottage Hospital, and many others. A report of the lecture will be published in our next issue.

Aberdeen Society of Architects.

The Aberdeen Society of Architects have elected the following officers for the ensuing year: President, Mr. George Bennett Mitchell; past-president, Mr. George Watt; vice-president, Mr. R. G. Wilson, jun.; ordinary members, Messrs. J. A. O. Allan, W. L. Duncan, W. E. Gauld, C. George, G. Gregory, W. Kelly, D. S. MacMillan, J. B. Nicol, and J. W. Walker; secretary and treasurer, Mr. W. E. Levie. The Society is one of the Chapters of the Institute of Scottish Architects, and Mr. George Watt, the retiring Chapter President, was elected to represent the Society on the Council of the Institute. The President of the Society also is ex-officio a member of the Institute Council.

Nottingham Architectural Society.

"Some Notes on Architectural Design" was the subject of a lantern lecture by Mr. H. W. Hobbiss, A.R.I.B.A., Lecturer to the Birmingham School of Architecture, at a meeting of the Nottingham and Derby Architectural Society, held under the chairmanship of Mr. H. G. Watkins, F.R.I.B.A., the President. Mr. Hobbiss stated that the intelligent public were taking greater interest in things architectural, and it behoved the profession to look to the conduct of this education from all points of view. Architects were accused of paying too much attention to the past. That they did in a great crisis—the way architects tackled the accommodation required as the outcome of the war—rise to the occasion and provide, and adequately provide, buildings needed for purposes hitherto unthought of, was a sufficient answer to such criticism. They could not possibly design without reference to what had gone before, and the greater their knowledge of history and construction the greater their power of design. He recommended all students of architecture to read works by architectural authors, and while reading to mentally construct the buildings described. The first consideration in designing was the building in the mass. It was specially important to bear in mind that a design represented solid masses of bricks or stone, and the effect of grouping must be considered; further, a student should be taught to dissect a building and grasp the "motif," then follow it out, noting its variations, and the scale and proportions of its parts. Good proportion was the syntax of design.

South Wales Institute of Architects.

The South Wales Institute of Architects, Central Branch, have elected the following officers to serve on the branch executive committee: Chairman, Mr. Cecil Wilson, F.R.I.B.A.; hon. secretary, Mr. Ivor P. Jones, A.R.I.B.A.; hon. treasurer, Mr. H. Teather, A.R.I.B.A.; members, Messrs. T. Alwyn Lloyd, F.R.I.B.A., P. Thomas, O.B.E., A.R.I.B.A., E. C. M. Willmott, A.R.I.B.A., and Sidney Williams, M.S.A.; Associates' representative, Mr. Colin L. Jones. Messrs. Wilson, Lloyd, Willmott, Williams, and Colin L. Jones have been elected as branch representatives on the Council of the South Wales Institute of Architects.

Town-planning Institute.

Mr. Edgar L. Chappell, Secretary of the South Wales Regional Survey Committee of the Ministry of Health, in reading a paper before the Town-Planning Institute, said that except in the old towns and villages on the northern fringe of the coalfield in South Wales the standard of housing in the region was satisfactory, but there had been an absence of careful town-planning, with the result that hardly any of the existing townships were satisfactory from the modern point of view. Whilst the Rhondda Valley required 7,000 houses, sites were not available for more than a sixth of that number, and the position of the Avon Valley was even more difficult. This valley was in an early stage of industrial development, and the coal resources would require in the near future the services of an enormous population, who could not possibly be accommodated within the valley itself. Housing sites in colliery districts were not now approved if the mineral valuer reported that the liability to subsidence was abnormal. The Regional Committee directed their attention to locating the centres at which the future population could most advantageously be housed, and decided that the future housing of miners under State-aided schemes should be concentrated as far as possible at fifteen carefully selected centres, accessible without much difficulty from the principal collieries. In the case of two of the suggested centres, Bridgend and Llantrisant, the Committee suggested that experiments should be carried out directly by the Government in the provision of dormitory towns, residential in character, and size and population limited by a permanent agricultural belt within its own boundaries.

The Abolition of the Chimney Stack

In our issue of March 20, 1920, there appeared a reference to the saving of building material and labour resulting from the employment of Nautilus cast concrete flue blocks in connection with gas fire installations for office buildings and cottages.

It was pointed out that this method of construction not only enabled the products of combustion from the gas fires to be carried off in narrow flues within the thickness of the wall—even where this was only a half-brick partition—but that it also dispensed with chimney breasts, skew-back arches, hearths and floor trimming, and in addition reduced the chimney stack to a mere hot air outlet appearing inconspicuously above the roof.

Distinct from, but nevertheless directly depending upon, these structural economies is the corresponding increase in floor area and cubic capacity which result from the omission of the chimney breasts.

This process of elimination has been carried yet a step further by the recent introduction of the Nautilus Eaves Terminal (see accompanying illustrations), which can be fitted to any external wall, and which enables the gas-flue stack to be entirely dispensed with and the costs incidental thereto to be saved.

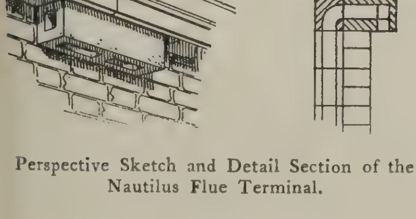
As will be seen from the illustrations, the terminal is so constructed that the products of combustion escape horizontally as well as in a downward direction, which arrangement has been found to assist extraction by providing a longitudinal air current.

The terminal is bonded into the wall and occupies a position immediately beneatn the soffit of the eaves. It is unobtrusive in design, and is a good example of the logical expression of a practical function.

It will be apparent that by means of this simple alternative much greater freedom is given to the architect in placing his gas flues. The traditional chimney stack was, for an excellent reason, situated well within the outer walls, and the flues were gathered into it from positions as near it as possible. With the use of the eaves terminal, however, gas flues may be constructed in any of the outer walls, thus providing increased facilities for selecting the best positions for the gas fires.

Cast concrete blocks can also be obtained having a second and narrower flue for ventilating purposes) parallel with and of the same length as that which carries off the products of combustion. These double-chamber blocks are known as "Auto-Vent" flues, and by their use in conjunction with inlets, thorough ventilation of the rooms can be effected.

From priced bills of quantities, prepared by Mr. Fleetwood Buss, P.A.S.I., it appears that a net saving of £62 11s. 10d. is possible on a pair of standard parlour-type houses, by the substitution of Nautilus flue-blocks, for fireplace and chimney-flue construction of the ordinary description. The principle of the narrow gas flue has also received the sanction of the Ministry of Health, as will be seen from the plan on page 7 of its pamphlet, "How to get a house of your own." This represents a bungalow, in which particular attention has been paid to the incorporation of labour-saving devices. These include the provision of gas fires throughout, with the exception of the open fireplace in the lounge hall. There is thus only one chimney stack, the remaining five flues terminating under the eaves.



Perspective Sketch and Detail Section of the Nautilus Flue Terminal.

Demonstration of Modern Construction Machinery

At the invitation of the Institution of Municipal and County Engineers, a number of the engineers and surveyors of the metropolitan boroughs and provincial areas visited Upper Montague Street and Woburn Square, London, to witness a demonstration of the Jaeger concrete mixing machine, the Karrier road sweeping and collecting machine, and the Springfield tandem steam road-roller, together with other plant. Amongst the visitors present were Sir Walter Gilbey and Mr. Killick, of the Ministry of Transport.

After Mr. E. F. Spurrell, hon. district secretary of the Institution, had explained the object of the gathering, Mr. Ivan Benson, manager of the machinery department of Messrs. Millars' Timber and Trading Co., Ltd., described the mixer, which he said effected at least a saving of 50 per cent. This machine was manufactured in different sizes, with various capacities. Commenting on the Springfield roller, Mr. Benson said the two great advantages were the steam steering-gear and the twin rollers.

At the luncheon held at the Holborn Restaurant after the demonstration, Mr. E. F. Morgan, highway surveyor of Croydon, stated that some twelve months ago they had bought one of the concrete mixing machines, and it had proved very satisfactory. Mr. Pickering, assistant highway surveyor to the Epsom Rural District Council, said they also had purchased one of these machines, and it had worked perfectly well on tar-macadam. Including mechanical costs, interest, and depreciation, the cost worked out at 2s. 9d. a ton, excluding the cost of the tar. Mr. A. E. Collins, borough surveyor of Norwich, referring to the Springfield roller, said that one of the best roads laid in his own borough had, for its material, the same Aztecphalte as they had seen that day.

After lunch an adjournment was made to Battersea, where the "Cummer" asphalt plant of the company was seen in operation It was shown how the materials are automatically fed into the machine, dried, screened, and weighed to the exact proportions necessary for a perfect road surface.

A visit was afterwards made to the premises taken over in Kirklin Street, Battersea, by the company. The building will be adapted as a warehouse and assembling shop, and ample accommodation will be available for demonstrating the many types of construction machines which they are handling.

Trade and Craft

A Record of Industrial War Service.

The great and important part played by Messrs. Holland and Hannen and Cubitts, Ltd., of 258 Gray's Inn Road, London, W.C.1, in meeting the urgent national industrial and other requirements of the war has been set on record in an admirable and extremely interesting brochure which has just been issued by the company. Signal service was rendered during the period from November, 1914, until the Armistice, the many activities of the company involving enormous contracts of great variety ranging from the construction of wireless stations, manufacture of fuses, the erection, equipment and management of the First National Aeroplane factory near Croydon, to the construction of shell-filling, tank, and explosive factories, etc. As a fitting conclusion to their invaluable war work, the firm completed the erection of the Cenotaph in Whitehall, under the supervision of Sir Edwin L. Lutyens, R.A.

Stanley Jones and Co.'s Staff Dinner.

Messrs. Stanley Jones and Co., Ltd., designers and manufacturers of hardwood and metal shop-fronts, have held a successful staff dinner at Sherry's Restaurant, London, which was attended by the directors, heads of the office staff, factory managers, heads of the different departments, managers of the Manchester and Leeds branches, and the provincial and London representatives. The chair was taken by Mr. F. G. Lucas, governing director of the company, who was supported by Messrs. W. D. Lambert (works director), C. E. Speaight (sales director), and A. H. Trangmar (secretary and director). Interesting speeches were made, the chairman urging the necessity for everyone in the employ of the company to put forth their best efforts to reduce the cost of production. Reference was also made to the progress of the company and the fact that last year's turnover was the largest on record. It was also stated that, notwithstanding the present slump, the company have many contracts in hand in the provinces, in London and abroad—for example, in Barcelona, Madrid, Antwerp, and South Africa. An excellent concert was given, and the whole company thoroughly enjoyed themselves. A dinner was also held in the same restaurant for the ladies representing the heads of their respective departments, who afterwards adjourned to the Prince of Wales' Theatre.

A School of Cookery.

The West End School of Cookery, which gives practical demonstrations of the "Kooksjoie" range, burning anthracite coal, is a new development of the London Warming Company, Ltd., of 20 Newman Street, W.1, who have acquired premises immediately opposite their show-rooms in Newman Street. The school, which was formally opened by the Marchioness of Aberdeen and Temair, is well equipped with labour-saving contrivances. Under the capable supervision of Mrs. Godfrey Sutcliffe, M.C.A., the first lecture and demonstration was given to test the efficacy of anthracite coal used in conjunction with a "Kooksjoie" range. The fire remained untouched for over two hours, and the dishes prepared by the lecturer, whether boiled or baked, were all cooked to perfection.

The Week's News

Warminster Urban Housing.

The scheme of the U.D.C provides for 100 houses.

Housing at Witham.

The new houses are to be sewered at an estimated cost of £1,000.

Hendon Hospital Enlargement.

For the enlargement of Hendon Cottage Hospital £5,000 is to be raised.

Kirkburton Housing.

The U.D.C. have decided to proceed with the building of twelve houses.

Oldham Housing.

There are eighty-six houses in course of erection, of which about thirty are slated.

Long Eaton Housing Site.

The Ministry of Health have sanctioned the borrowing of £14,000 for the purchase of the Hall estate for housing.

Earsdon Housing Progress.

Two houses and two bungalows have been formally opened at Backworth, where the U.D.C. propose to erect 226 houses.

More Houses for Grays.

The Housing Commissioner has sanctioned the erection by the U.D.C. of a further 100 houses.

Aylesbury Housing Loan.

The Public Works Loan Board have sanctioned a further loan of £36,251 for housing.

Housing at East Ham.

Sixteen houses have been erected by contract, and twenty are being carried out by direct labour. The T.C. have agreed to invite tenders for a further sixteen houses.

Staveley Sewerage.

The Ministry of Health have sanctioned the carrying out of a sewerage scheme by the Chesterfield R.D.C. at a cost of £1,500.

Land for Southport Houses.

The T.C. have decided to apply to the Ministry of Health for sanction to a loan of £3,540 for the purchase of land in connection with the Ainsdale housing site.

Oxford Town Planning Scheme.

The Housing and Town Planning Committee have been authorised by the Council to frame a definite town planning scheme.

York Housing Scheme.

The Housing Committee have resolved that an additional 150 houses be erected on the Tang Hall estate, and twenty houses at Ovington Terrace.

East Preston Housing Site.

The R.D.C. have received the sanction of the Ministry of Health to a loan of £466 for the purchase of a housing site at East Preston.

Housing at Warwick.

About 160 houses are to be erected on the second Warwick housing site to be opened up, and seventy are being put up in another part of the town.

Housing at Brownhills.

In addition to the 250 houses at Brownhills and Shelfield, for which a tender has been accepted, the U.D.C. propose to erect fifty at Norton Canes.

Borough Polytechnic Institute.

On Saturday next the annual exhibition of students' work will be held between 6 and 9.30 p.m., at the Borough Polytechnic Institute, Borough Road, London, S.E.1. During the exhibition facilities will be provided to inspect the various art rooms, and the electrical engineering, and other workshops of the Institute.

Durham War Memorial.

A scroll of honour, bearing the names of the 360 citizens who sacrificed their lives in the war, has been unveiled at the Town Hall, Durham.

Chorley Housing.

The R.D.C. have decided to proceed with the erection of a further six houses at Eccleston, and to invite tenders for the erection of six houses on the approved site at Hoghton.

Peterhead Memorial.

The Peterhead War Memorial Committee have agreed to invite designs and estimates for a suitable memorial, to be of Peterhead granite, the cost of which must not exceed £2,000.

Dorking Housing Schemes.

Nearly a hundred houses are in course of erection, and the site has been chosen for another hundred. The U.D.C. has also decided to lay down its own plant, at a cost of £500, for making tar macadam.

Labour Institute in Glasgow.

The Parliamentary Committee of the Scottish Trades Union Congress have decided to proceed with a scheme for the erection in Glasgow of a Scottish Labour Institute.

Carnegie Welfare Centre.

During the next five years £443,000 is to be spent by the Carnegie Trust in this country. It is proposed to acquire 117 Piccadilly as a site for a central institute for infant and child welfare. For this £40,000 is provided.

Housing Progress at Westhampnett.

Seven schemes are now in operation, namely, Slindon (7 houses), Eastergate (18), Aldingbourne (8), North Mundham, two sites (9), Westhampnett (6), Selsey (2). Of these seven, two—Eastergate and Aldingbourne—are practically completed.

Brandon and Byshottles Building Scheme.

The Brandon and Byshottles U.D.C. have received the sanction of the Ministry of Health to borrow £27,200 for the Waterhouses housing scheme and £132,480 for the Meadowfield scheme.

Housing at Paisley.

The latest scheme of the Corporation provides for about 450 houses on a site at Whitehaugh. The Dean of Guild Court have passed plans of the first portion of the scheme, which empowers the construction of new roads and of 124 houses, each of three or four apartments.

Additional Housing Assistant for Cambridge.

It was decided at a meeting of the Cambridge Housing and Town Planning Committee that the Council be asked to authorise the Committee to employ an additional architectural assistant at a salary of £200 per annum.

German Building Materials.

An example of German competition in the market for building materials was quoted at a recent meeting of the Eton R.D.C., in a letter received from a German firm. The writers offered to supply any quantity of doors and windows suitable for workmen's dwellings, and continued: "We are able to despatch at once about twenty thousand doors and windows of different sizes which we have in stock at very favourable prices. We bind ourselves to the prices quoted, even in case of any rise in wages, frieght, etc." No order resulted.

Northumberland Fusiliers' Memorial.

It is proposed to erect a window in the north aisle of St. Nicholas' Cathedral, Newcastle-on-Tyne, to the memory of all officers, warrant officers, non-commissioned officers, and privates of the 1st and 2nd Battalions Northumberland Fusiliers who were killed while on service during the Great War.

Garden Cities and Town Planning Association Report.

The Council reports that during the year eighty public utility societies established for building houses were registered through the Association on its model rules. Under these schemes there were 920 houses completed, 2,970 in course of erection, and plans approved for 3,300 other houses.

The Late Mr. James Holliday's Estate.

Mr. James Samuel Holliday, of Sutton, chairman of Holliday and Greenwood, Ltd., contractors, who built the Victoria and Albert Museum, one time President of the London Master Builders' Association, President of the Institute of Builders, and Chairman of the London County Council School of Building, who died on December 4, has left £9,403 gross and £8,216 net.

A Correction.

We are requested to state that under the illustration to the advertisement of Messrs. G. Jackson and Sons, Ltd., on page xxiii of our issue for March 2, the address of the architects (Messrs. Woolfall and Eccles), of the London Joint City and Midland Bank, Buchanan Street, Glasgow, is wrongly given. Their address is 60 Castle Street, Liverpool.

Repairs in Winchester Cathedral.

The great west window of Winchester Cathedral, which is made of thousands of fragments of coloured glass collected from different parts of the building after the havoc wrought by Cromwell's soldiers, is being thoroughly overhauled. A recent examination showed that most of the glazing had perished. At the same time it was discovered that the glaziers of the seventeenth century put in many of the bits of glass inside out.

Bulgarian Cement.

Several of the chief cement factories in Bulgaria are asking for permission to export cement and hydraulic lime, of which there is a surplus, building not having yet begun. The Government has agreed, provided that they replace the amount exported when building recommences. The factories, however, say that the amount they have to export would be greater than the amount required locally, and that the full quantity exported would not have to be replaced.

Gloucester Rural Housing.

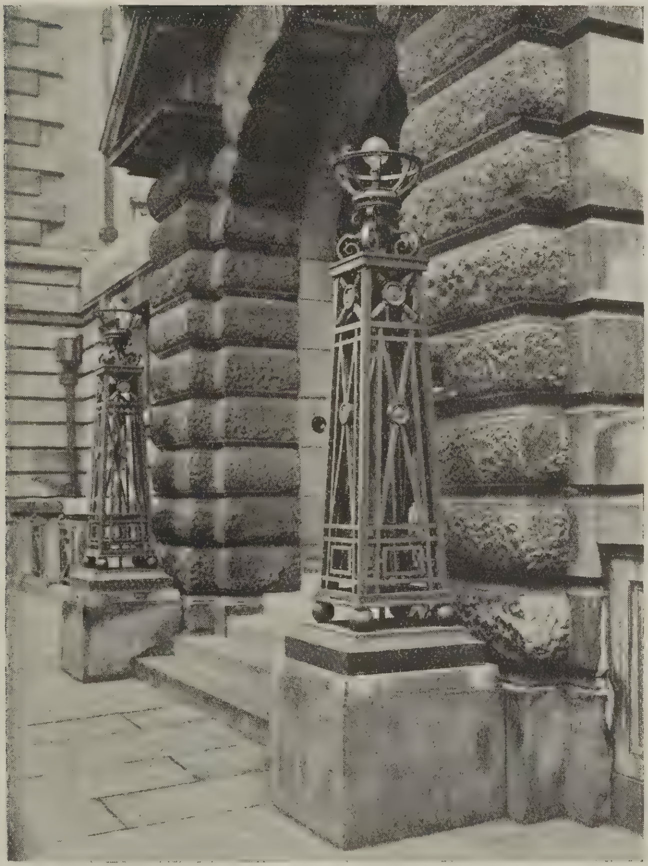
The Housing Commissioner has given formal approval to the Council's lay-out plan for Barnwood, and to Type B house plans (north aspect), bungalow type. Formal approval has also been given by the Ministry for the use of their Type B plan No. 4 and Type B 4 plan No. 189 for this site. The Housing Commissioner has also authorised the provision of a main for water supply to houses at Hucclecote.

Wednesday, March 23, 1921

Volume LIII. No. 1368

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

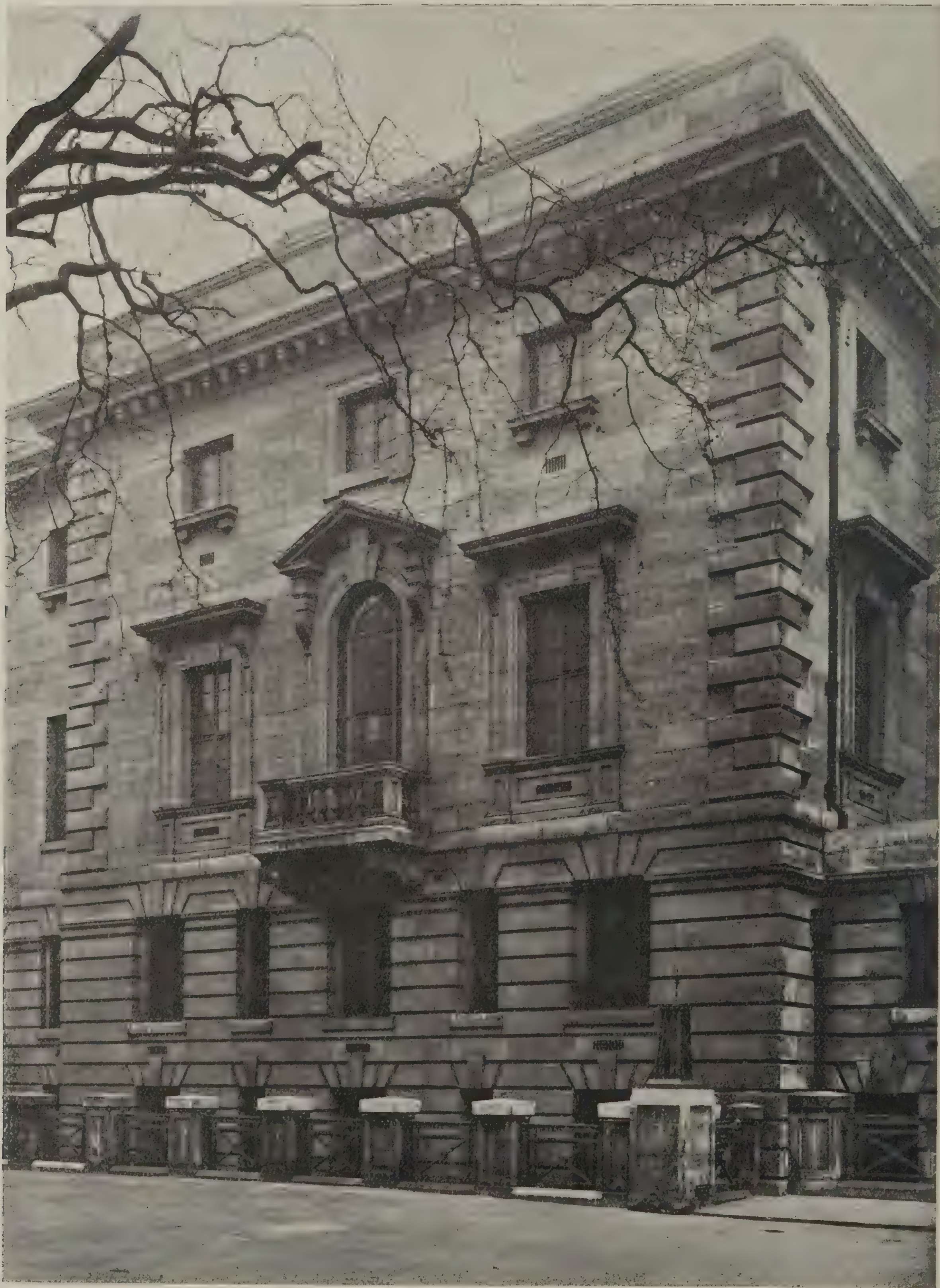


LAMP STANDARDS AT THE NEW QUARTER SESSIONS HOUSE, NEWINGTON CAUSEWAY. W. E. RILEY, F.R.I.B.A., OFFICIAL ARCHITECT TO THE L.C.C.

27-29 Tothill Street, Westminster, S.W.1.

Current Architecture. 64.—New Quarter Sessions House, Newington Causeway, London: Detail of Entrance Front

W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the L.C.C.



The above view, a detail of the left wing of the main façade, shows the very dignified architectural character of the New Sessions House for the County of London, lately completed in Newington Causeway, S.E. A full description of the building is given in the article which begins on page 351.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, March 23, 1921 Volume LIII. No. 1368

Beauty and Utility

A NEW art movement was overdue. We mean, of course, the real thing, not the spurious imitations. Not a movement to promote Paulo-post Futurism, or any other egregious fad, but art that is undenominational, so to speak—art pure and simple, as exemplified, for instance, in a noble cathedral or in a shapely sand-bin.

That is the art at which a projected Committee of Taste is taking aim—art essential and sincere, art that consists of beautiful materials, colours, shapes, proportions, composition, construction. Fundamental art, not freak art. Similar movements have been familiar enough. Ruskin, Morris, Walter Crane, each in his own particular way, but the later deriving from the earlier. Splendid work, though overmuch belittled, reviled, and derided, was done by South Kensington. More had been done—but such rough pioneer work has been, of late, rather contemptuously recalled—by the Great Exhibition of 1851, in which things to imitate and things to avoid were rather indiscriminately jumbled together, but the collection, heterogeneous though it was, nevertheless lifted industrial art out of the deep rut in which it lay bemused and bemired. Its records must have inspired the fine ideals and the sound (as often as not) doctrines expounded by Ruskin in his works *passim*, particularly in "Fors Clavigera"; and what he preached, Morris and Crane tried to put into practice.

Art workmanship was the lesson of all these preachers and teachers, and in many respects Walter Crane was the most practical of them all. Morris made beautiful objects of utility—furniture, books, tapestry, wallpaper; but Crane put hand and soul into that Arts and Crafts Guild that was so much poorer in fulfilment than its rich promise led us to anticipate. It is said that its teachings were much more seriously appreciated in Germany than in Britain. Then the Kyrle Society, whose efforts to spread the love of beauty among children in the elementary schools by means of pictures has been allowed to languish through lack of funds, were undoubtedly wise in choosing this field of operations. To democratise art, a beginning should be made with the children in the common-schools, whence come the hand-workers, the shapers and makers of utensils and of fabrics.

Consciously or sub-consciously, the new Committee of Taste, or whatsoever it may be called, will be guided by the work of its predecessors, will profit by their example even while avoiding their mistakes, one of which was a certain want of catholicity; another being a most lamentable failure to understand the psychology of the people whom they were most anxious to convert to an appreciation of "whatsoever things are lovely and of good report." They did not set to work in the right way. They sought to impose art on the people rather than to get people to see with their own eyes that art was a thing to be desired for itself. Even to collect beautiful objects in a museum as if they were rare—were not common objects of utility, but just museum specimens, objects of curiosity and nothing more—was in some measure to defeat the aim of impressing upon all and sundry the satisfaction to be derived from goodly shapes, proportions, colours. In the propaganda of the new movement there is talk of founding another museum, to contain, like the Trocadero in Paris, casts of carving, modelling, bronze work. It should be on new lines. Guides, lantern lecturers, cinema operators, and so forth, should be ever on the alert to make it popular. To bring water to the horse is a good thing; but new methods of getting him into the mood to drink it, of making him really thirst for art in all its manifestations, must be employed if the old failures are to be avoided.

A splendid effort is being made in "The Times" to interest the influential sections of the public in this great new movement. The "Special Correspondent" who has written in that paper day by day a series of powerful articles variously headed "Beauty Made and Marred," "Art in Common Life," "The Plea for Beauty," and so forth, has wisely gone to leading architects, as well as to other artists, for help and counsel. Mr. John W. Simpson, P.R.I.B.A., chose a very striking illustration of the beauty that may reside in common things that admirably fulfil their purpose. He chose, as exemplifying this proposition, the pillar letter-box. It is round, he remarked, for the safety of the passers-by. It has a curved top, that throws off the rain, a flap over the aperture, a firm base, and not one superfluous detail. To our lamp-posts he could not accord equal praise, nor to our railings, nor to our bill hoardings, which, by the way, are not only ugly in themselves, but are very deadly to the street they disfigure but might adorn.

To Sir Reginald Blomfield, R.A., appeal was naturally made. In preference to a Ministry of Fine Art, he favours the idea of an Advisory Commission on the lines of the American Fine Arts Commission at Washington. He agreed that the people and the arts are not sufficiently related, and that much turns on the methods adopted to bring them together. He thought, however—and on this point no less than on the others he discussed it is impossible to disagree with him—that "we have quite enough museums."

As the "Mistress Art"—we believe the phrase was invented by Sir Reginald—architecture is intimately concerned in this great new art movement. What need to say, at this time of day, that the quality of architecture is profoundly affected by its surroundings, artificial as well as natural, and by the thoughts, tastes, feelings, education, of the persons who inhabit the buildings we design, or who merely pass them by?—that the influence of building on humanity and vice versa, is mutual and reciprocal. Architects who work in a welter, a wilderness, of appalling ugliness, are inevitably affected and afflicted by it, as well as by their sensitiveness to the tone and feeling of those for whose profit or pleasure buildings are put up. We are hoping, therefore, great things from this excellent movement, and we wish it the fullest success. As someone has said, a new Renaissance was overdue; and it would seem that the horizon is already touched with "the roseate hues of early dawn." And this movement reverses the process that has failed: it begins building at ground-level.

Notes and Comments

Temple Bar

Thrice, the reports say, Sir Hedworth Meux has declined to part with old Temple Bar. He is within his rights, but one had rather that he had not asserted them so vigorously or clung to them so tenaciously. He is indefeasible, too, in his sententious conclusion: "The public of London does not consist entirely of those within the sound of Bow Bells." But, Sir Hedworth, it surely consists most numerously of such. He adds: "The suburbs and outlying districts also deserve some consideration." Granted again, with a further but. As a gateway to Theobald's Park, Temple Bar, Sir Hedley states, is yearly visited by tens of thousands of persons; for whom, however, it cannot possibly possess the same quantitative and qualitative interest that it would if it were erected in London. True, it was because of the apathy of Londoners that the *disjecta membra* of Wren's fine old gateway were dumped carelessly on a piece of waste ground in Farringdon Road, where they remained from 1878, when the Bar was pulled down, until 1887, when the City Corporation were glad to accept the offer of Sir Henry Bruce Meux to take them away at his own expense—some fifteen thousand pounds. But since then Londoners have so far recovered from their callousness as to have formed the London Society, which has played in vain the importunate widow to Sir Hedworth, who so evidently cherishes his Wren relic that we have no heart to chide him for clinging to it.

L.C.C. Housing Scheme Held Up

It has been freely complained that the Ministry of Health, instead of promoting house-building, is in some instances actually hindering it. Their latest exploit of this sort is likely to bring them notoriety. It will be alleged, not altogether ingenuously, that they are putting obstacles in the way of the London County Council's operations. In a manner of speaking, they are certainly doing that, but possibly with benevolent intentions. At the meeting of the Council on March 15 it was divulged by the Housing Committee that correspondence between that Committee and the Minister of Health with respect to the housing scheme for Becontree, otherwise Dagenham, had evolved a crucial issue. "From this correspondence it appeared," according to a newspaper report of the meeting, "that the Minister of Health would not agree at present to expenditure being incurred on any works, or on preparing for any works, other than those required for the Ilford section of the estate." Labour members were up in arms against the Health Minister's veto, and Miss Susan Lawrence declared that the Housing Committee was "proposing to ask the Minister of Health to commit this particular crime in the name of the Council." On a dispassionate view, however, it would appear that the Committee anticipate a considerable fall in prices, and deem that they may effect a saving if the project is delayed. It was probably for this reason that the Council ultimately agreed to the following tepid and colourless resolution: "That the Minister of Health be asked to receive a deputation in order to determine the best method of giving effect to his desire that the Council should for the present concentrate all its efforts on the Ilford section of the Becontree estate, and to discuss the desirability of preparing plans for the other sections of the estate." As one of the debaters said, the deputation would be mere camouflage. It is quite evident that the Council are by no means anxious to build extensively at present rates; but any financial gain that may accrue should be scrupulously weighed against the physical, moral, and political, or polemical disadvantages that will inevitably arise from indefinite postponement. There is a question of balance other than that expressed in the ledgers. These delays of housing operations on the chance that labour will become more abundant and more energetic, and that materials will soon be cheaper and more plentiful, may be politic; but they certainly lend colour to the common accusation that housing needs have been exaggerated for political reasons, or, at all events, have been over-estimated as a matter of "keeping on the safe side." It would seem that megalomania had suffered a sharp decline, and that both the Ministry of Health and the London County Council were anxious to recede from an impossible situation.

The R.A. and the City Churches

As we go to press, we are in receipt of the report of the Royal Academy conferences on the threat to the City churches. These conferences included delegates from the principal bodies in London representing architecture, art, and archæology. The gist of their report, which is signed by Sir Aston Webb as President of the Royal Academy, is contained in this passage: "We feel strongly that an evil precedent will be created if the Church of England is a party to the destruction of monuments of the past which are irreplaceable." In his reply, which is appended to the printed report, the Bishop of London says: "I can assure you that no wholesale demolition of nineteen City churches is contemplated." He admits, however, the possibility "that some few may eventually have to be pulled down or removed," but adds the assurance that "this would only be done after grave consideration of every case." Destruction is still contemplated, but it is not to be wholesale. Apart from the unsatisfactory nature of this reply, the peculiar thing about it is that it should have been delayed for nearly seven months. Is this yet another instance of the unbusinesslike methods of the church?

Houses and Habits

Mr. George Bernard Shaw being a publicist of sorts, he was very welcome as a speaker at the annual meeting of the Garden Cities and Town-planning Association. For the nonce, he forsook paradox and heresy, and gave expression to a few plain home-truths. It is, indeed, the baldest of truisms to say that a nation is formed by the houses it lives in; and there is nothing fresh in his development of the idea. If, he said, you live in a particular kind of house, you are bound to get a particular set of habits, "and these habits make all the difference between a savage and a civilised man." Exactly. It would be very interesting to know the name of the architect of the house that has been the dominating influence in forming Mr. Shaw's habits. He must be a masterly planner.

The Late Lord Moulton

In announcing, at the R.I.B.A. meeting reported in this issue, the death of Lord Moulton, Mr. Arthur Keen recalled that his lordship was in 1883 elected an Hon. Associate of the Institute, and that in 1903 he introduced in the House of Commons a Bill to reform the law as to rights of light. As no man then living had so firm a grasp of technical details, the Bill ought to have got through triumphantly, but the law as to ancient lights remains one of the biggest of the bugbears that embitter the existence of the architect. Nevertheless, Lord Moulton—or Mr. Fletcher Moulton as he then was (he was created a Baron in 1912), will be held in grateful memory for so forcibly drawing attention to abuses that were thereby shaken severely, though they did not fall.

The Licensed House Competition

MR. JOHN W. SIMPSON, P.R.I.B.A., the assessor in the above competition (promoted by the Worshipful Company of Brewers), has made his awards as follows:—

1st (premium of £300), awarded to the authors of Design No. 14, Messrs. Curtis and Natusch and White and George, AA.R.I.B.A., Associated Architects, 34 Bedford Square, W.C.1.

2nd (premium of £150), awarded to the author of Design No. 42, Mr. C. H. James, A.R.I.B.A. (of "Hennell and James"), 19 Russell Square, W.C.1.

3rd (premium of £50), awarded to the authors of Design No. 72, Messrs. Blount and Williamson, A.R.I.B.A., 5 Duke Street, Adelphi, W.C.2.

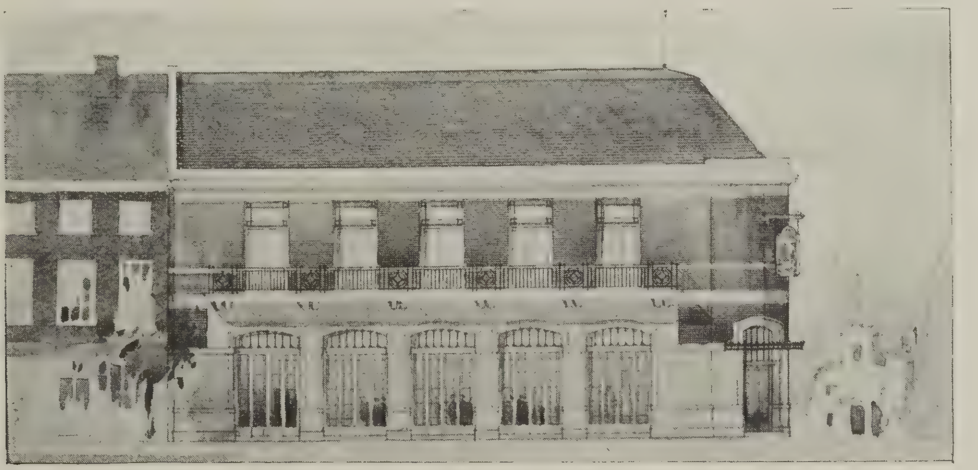
Special Mention, Design No. 1, Messrs. L. G. Hannaford, A.R.I.B.A., and H. G. Cherry, Licentiate R.I.B.A.

All the designs submitted (seventy-eight in number) are on exhibition in the R.I.B.A. galleries between the hours of 10 a.m and 8 p.m. The exhibition closes to-morrow.

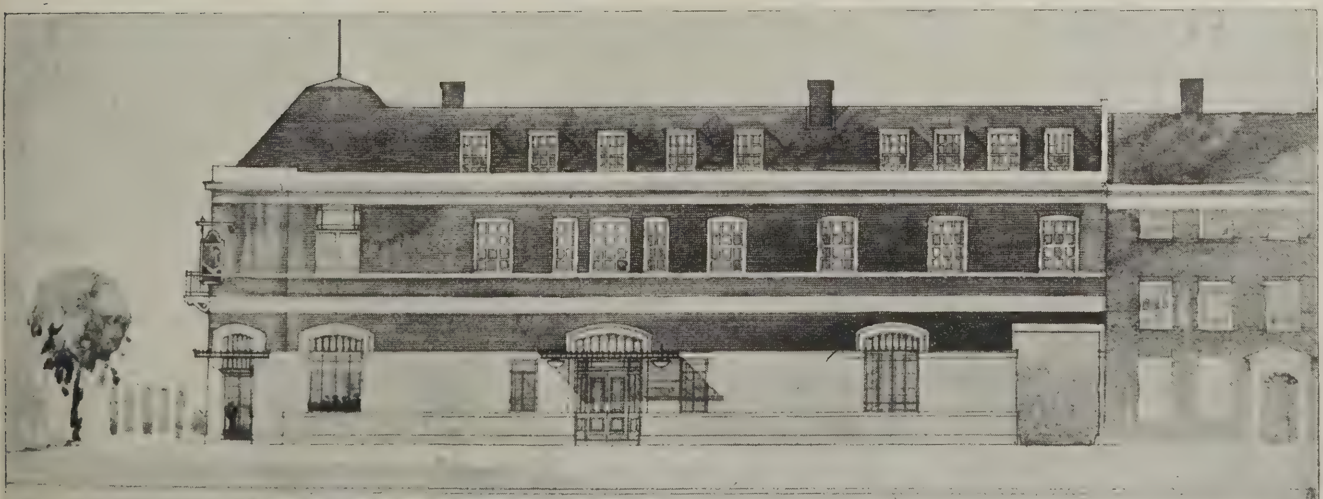
The competition called for a type design for a licensed house in a large town. The site was a simple one, located at the angle of two streets in one of the larger suburban districts in the County of London. Briefly summarised, the accommodation required was as follows: On the ground floor—refreshment room, 1,500 ft. sup.; club room, 1,000 ft. sup.; bar room; sanitary arrangements; a small yard; entrance and staircase to upper floors. In the basement—suitable cellar room. On the first floor—assembly room suitable for dining 100 guests; sitting-room, three bedrooms, bathroom, and w.c. for landlord; three bedrooms for cook and three kitchen-maids; bed-sitting-room for manager; two bedrooms for two barmen; two bedrooms for two barmaids; one common-room for staff. On the top floor—kitchen, larders, and usual offices.

With regard to architectural treatment, no restriction was placed upon competitors, though it was mentioned in the conditions that the traditional style of design in the district was a quiet rendering of eighteenth-century English Classic. It was desired that the exterior should be free from conspicuous advertisement of any kind, and that the purpose of the building should be indicated by a hanging sign or other feature forming part of the design.

The winning design has the best plan of any submitted. The service is open and in the right place, and the circulation is good. The staircase to the assembly-room,



Elevation.



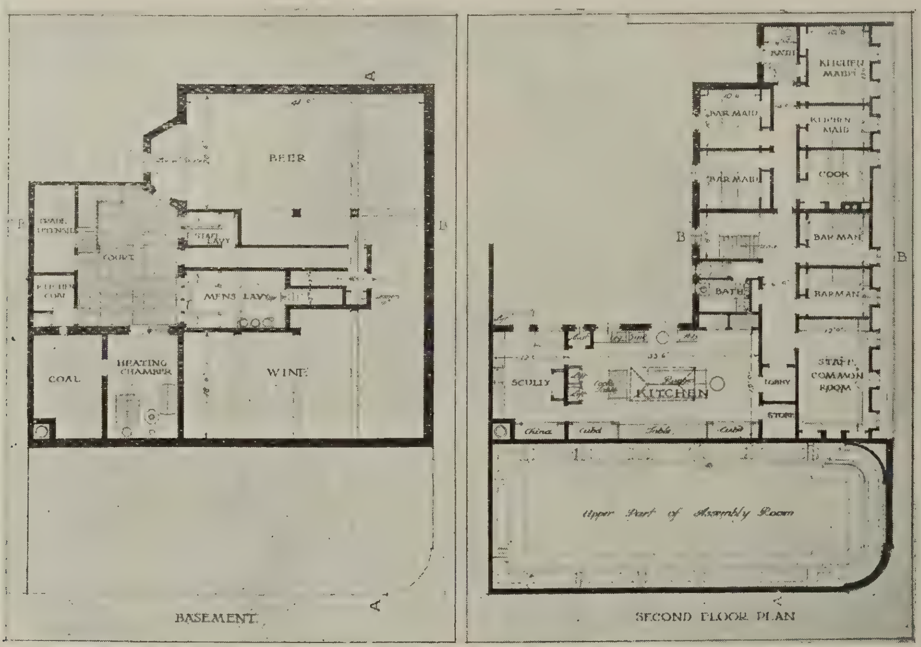
Elevation to Side Street.

THE BREWERS' COMPANY'S COMPETITION FOR A LICENSED HOUSE: FIRST PREMIATED DESIGN.

CURTIS AND NATUSCH, AA.R.I.B.A., AND WHITE AND GEORGE, AA.R.I.B.A., ARCHITECTS.

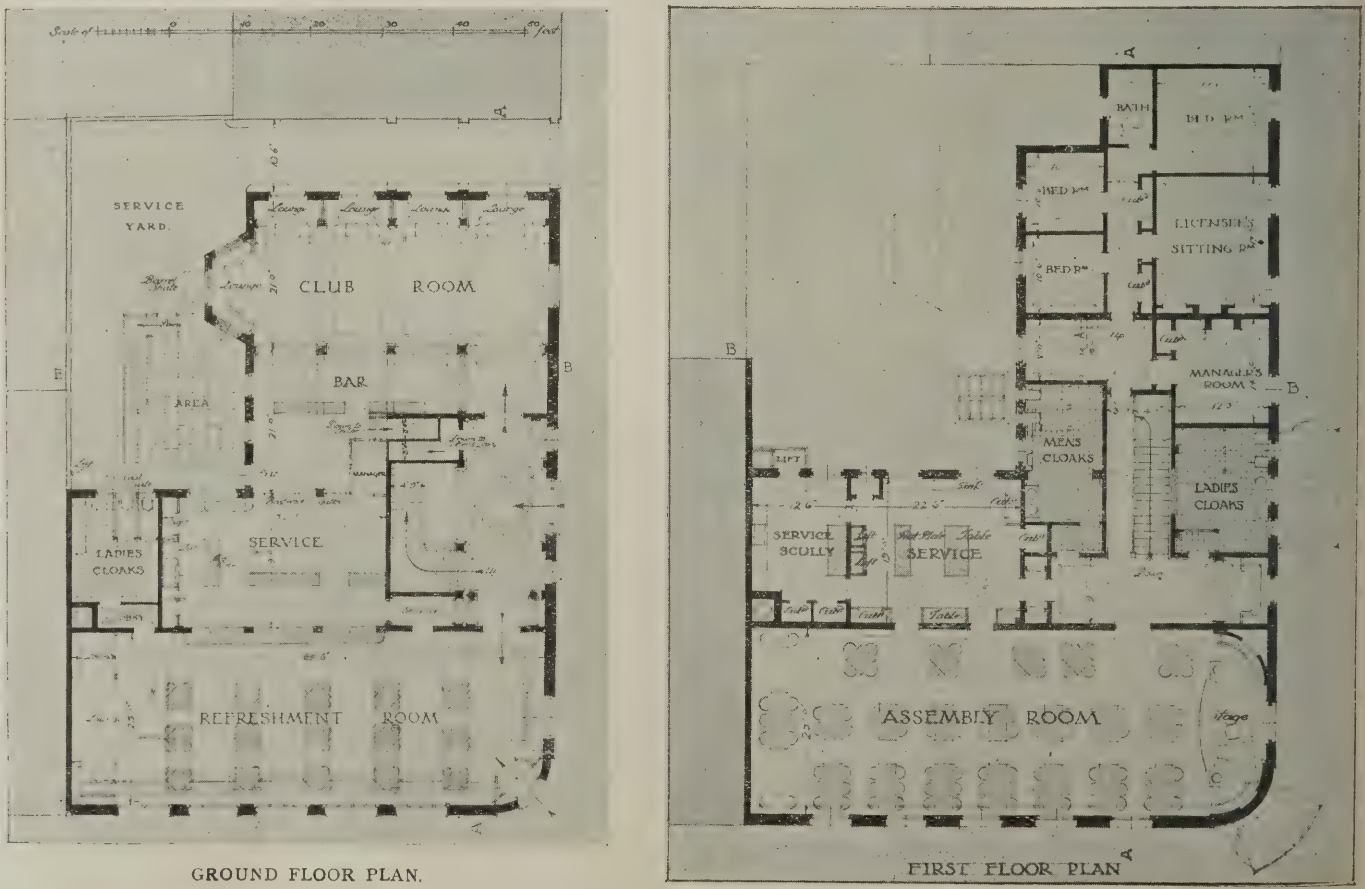
however, leaves much to be desired, and the first-floor approach passage to that apartment (only 3 ft. 9 in. in width) is totally inadequate to the requirements. Also there is insufficient privacy to the cloak-rooms for both sexes. The kitchen and service arrangements, etc., are very well thought out, and should prove convenient and efficient in working. The elevations are somewhat on the dull side, and bear more resemblance to a French bank than to a place of entertainment. Internally the decorative treatment has too much of the character advocated by commercial upholsterers. The outside sign is of an architectural type, but unattractive in form.

The second premiated design is somewhat similar to the first in general planning, and gains second place by virtue of its all-round efficiency. A point that invites criticism is the lighting of the staircase, which is by top light and altogether inadequate. The elevations, in detail, are better than those of the first, but are not entirely appropriate, having a quasi-Italian flavour, reminiscent of Robert Adam's Town Hall at Hertford.



BASEMENT.

SECOND FLOOR PLAN



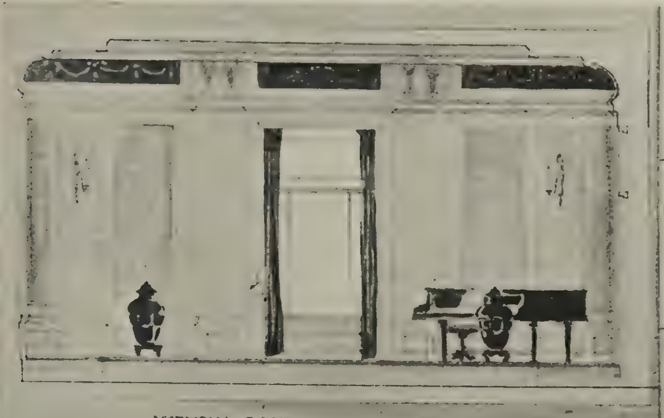
GROUND FLOOR PLAN.

FIRST FLOOR PLAN

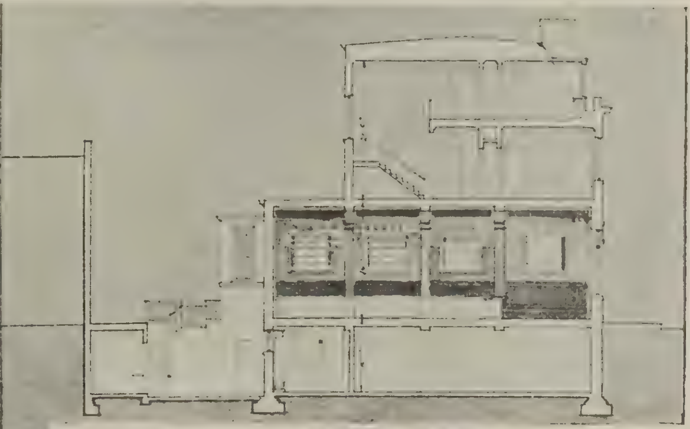
THE BREWERS' COMPANY'S COMPETITION FOR A LICENSED HOUSE: PLANS OF FIRST PREMIATED DESIGN.
CURTIS AND NATUSCH, AA.R.I.B.A., AND WHITE AND GEORGE, AA.R.I.B.A., ARCHITECTS.

Current Architecture. 65.—The Brewers' Company's Competition for a Licensed House: First Premiated Design

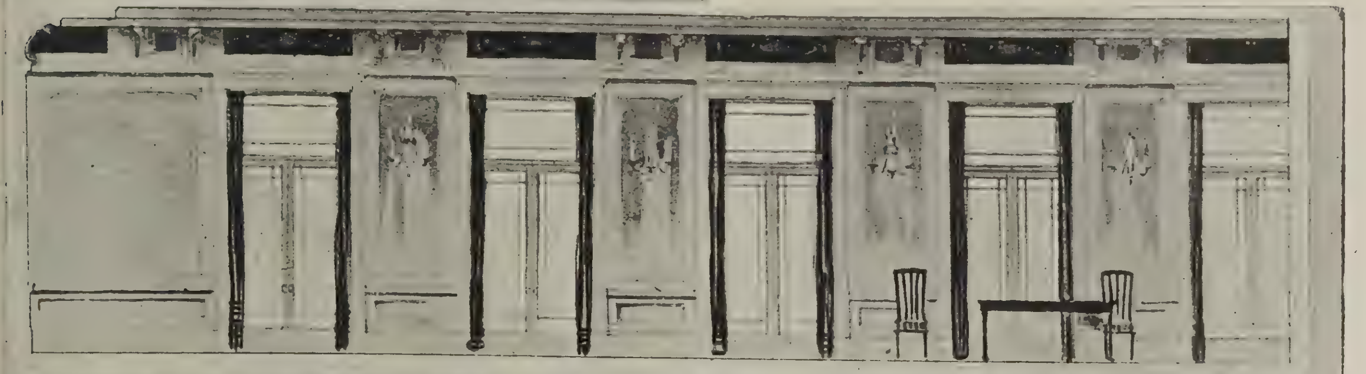
Curtis and Natusch, AA.R.I.B.A., and White and George, AA.R.I.B.A., Architects



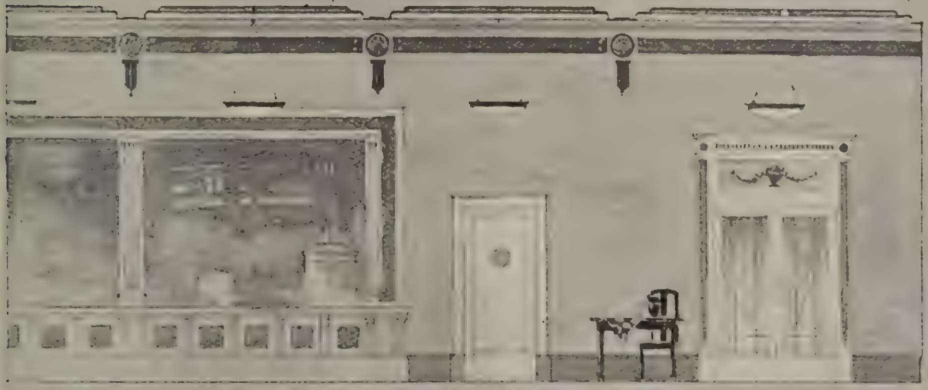
ASSEMBLY ROOM ELEVATION OF STAGE



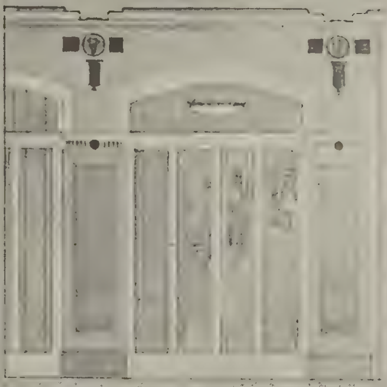
SECTION "B B."



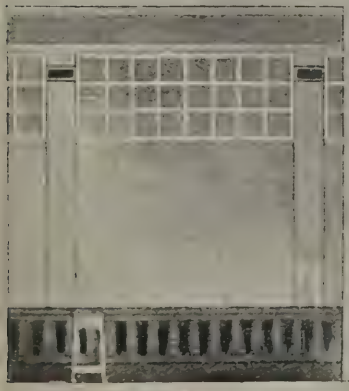
ELEVATION · EXTERNAL WALL



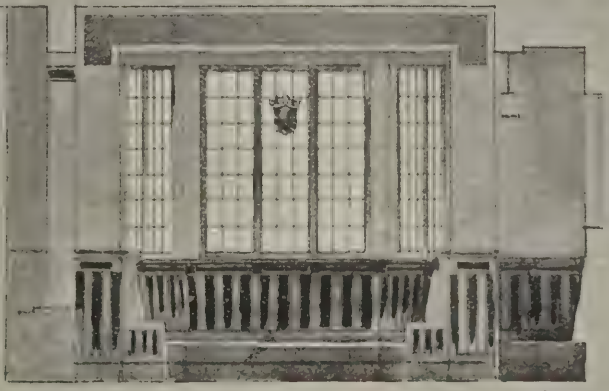
REFRESHMENT ROOM · HALF ELEVATION FACING BAR



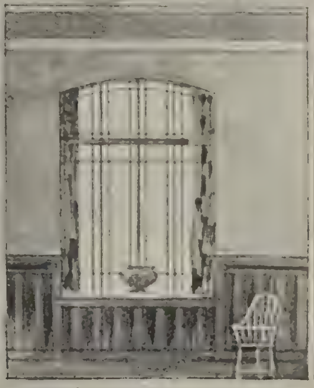
DETAIL · ONE BAY EXTERNAL WALL



CLUB ROOM · BAR



CLUB ROOM · END BAY



CLUB ROOM · END WINDOW

The interior decorations are heavy and on the "arty" side, and the author does not seem to have kept in mind the human proportions of rooms. He is, however, to be specially complimented on his hanging sign, simple in design and exemplary in lettering.

The plan of the third premiated design, though fulfilling most of the practical requirements, is somewhat lacking in architectural quality. The entrance is mean and the staircase insignificant in treatment. Congestion would inevitably occur in the vestibule. True, there is a secondary staircase, but this seems only to echo the distress which it is designed to relieve. The external architectural character, as well as the internal decorations, leave something to be desired; but the authors of the design have displayed such meticulous care in the arrangement of seating accommodation and details of minor importance that Mr. Simpson could have had no other choice in awarding the third prize. (It may be added that the authors of this design have devised an attractive hanging sign of the Cecil Aldin type.

A special mention is deservedly accorded Design No. 1.

A tour round the walls reveals few designs that call for special comment. No. 53 (presented in one of the best sets of drawings on view) has a very attractive exterior, but lacks the open quality essential to a place of public entertainment. Its principal defect—one common to all the schemes submitted—is the small size of the hall. In traditional hostelries this feature is always of generous proportions. Design No. 2 fails, like many others, on account of inadequate lighting and a cramped entrance vestibule. The architectural treatment is stiff and the silhouette of the plan weak.

Design No. 27 provides a large vestibule at the expense of the staircase. The crush hall would be of little use except to restore those who had fainted on the narrow staircase. No. 31 shows adequate and simple planning but a ragged silhouette. No. 33 has an attractive south elevation but is faulty in planning. No. 60 is somewhat stilted in its interpretation of the conditions, and far too complex to be successful in working. About the elevations there is a pronounced lack of repose, due to overcomposing.

We may conclude this hasty survey of some of the more worthy designs with a few discursive comments. This competition reveals the influence of the schools much more strongly than any other of recent date. While, in a sense, the result is a great credit to the schools (Messrs. Curtis, Natusch, George, and White all having studied in the A.A. Schools, Messrs. George and White being also among the successful candidates chosen for the final competition for this year's Prix de Rome), there is not actually so much cause for gratification as would at first appear. The great majority of the designs that have the school stamp upon them, though deft in draughtsmanship and clever in elevational treatment, fail noticeably in planning. Not one has that simplicity—almost inevitability—of plan that comes of intensive effort, and presents itself as the only true solution of the problem. A workable plan is the primary requirement, and it is precisely here that failure is most apparent. Most of the competitors seem to have approached the subject from the wrong point of view. The task was to provide something novel, yet at the same time respectable—a blend of French and British ideas. The English climate not allowing of the open-air café, a compromise was obviously indicated—something in the nature of big refreshment rooms with doors and windows capable of being adjusted to the weather conditions. Few of the competitors have appreciated the possibilities in this direction. It is appalling to think of the amount of work involved in the designs on view, yet misdirected effort must inevitably go unrequited. It is a pity that the competition failed to draw our best architectural talent.

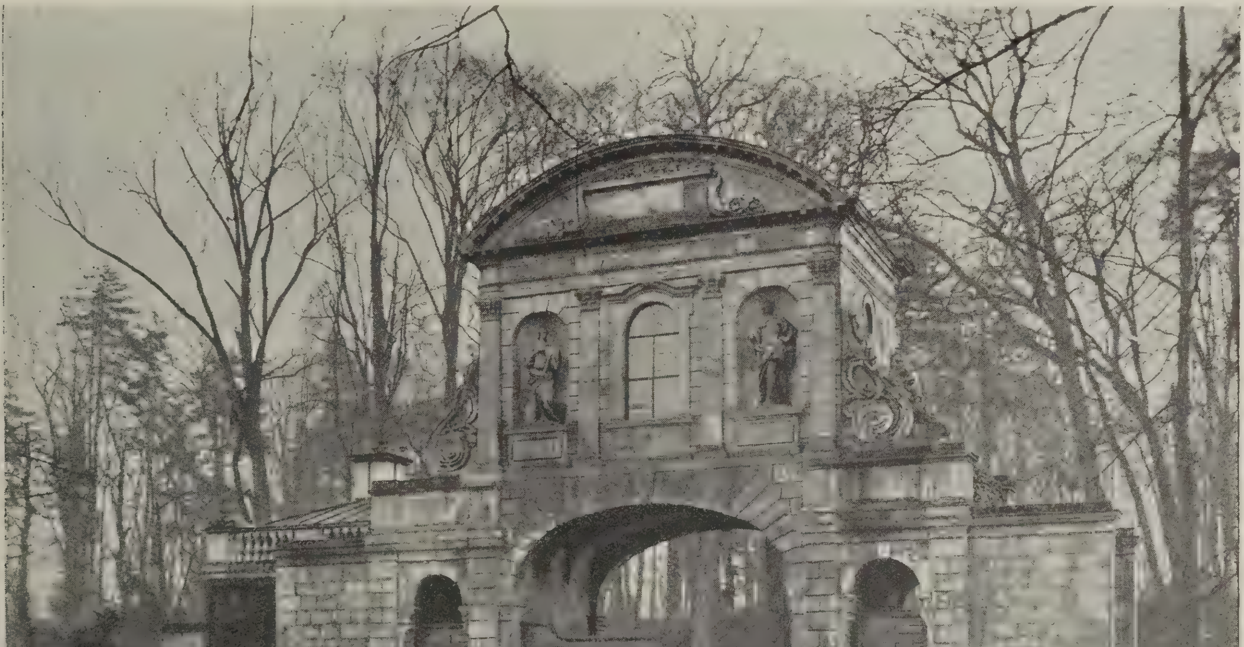


Photo: Allen Fairhead & Son.

OLD TEMPLE BAR, NOW THE ENTRANCE TO THEOBALD'S PARK, WALTHAM.

It will be widely regretted that the recent efforts of the London Society to secure the return of Wren's old gateway to London have so far proved unsuccessful. (See Editoral comment in this issue.)

Architectural Causerie:

The Chippendales

(Concluded from last week's issue.)

LIKE his father, the third Chippendale was a member of the Society of Arts; therefore, he knew Robert Adam, and had great respect for this architect's delicacy in the treatment of buildings, so much so that when in 1793, or thereabouts, he secured five or six acres of land on the Oxford Road, outside Uxbridge, as a site for a country box, he determined to reproduce in miniature the façade of the Society's Building as a frontispiece to be viewed by all and sundry journeying by coach and chaise from London to Oxford. Chippendale II. had worked for the best families. He had been employed at Harewood in Yorkshire, at Hinton St. George, at Rowton Castle, and at Stonehead. It is probable that Thomas accompanied his father on these jaunts.

* * *

Chippendale III. was a true artist without his father's capacity for book-keeping or book-writing; hence his predilection for Haig. He, too, spent a good deal of time visiting country seats, including Raynham in Norfolk, and it was this member of the firm of Chippendale who carried into effect some of the designs for furniture prepared by the Adam Brothers.

* * *

Having secured Park Lodge at Uxbridge, Thomas evidently decided to leave the old stable buildings as they were; the sumptuous carved standards between the stalls may have reminded him of certain designs for bedposts made long since by his father. There is certainly an element of poetry in the fact that even Chippendale's horses enjoyed carving—that is if they had any especial flair for it. Chippendale the third found a wall round the property which he ramped and shaped anew.

* * *

As a draughtsman and designer, with many books, including Plaw and Crunden, in his collection, and Adam's great folio before him, it seems only reasonable that Thomas should have started forthwith to design the house of his desire: for this Chippendale could turn from carving wood to painting pictures, and, judging from the house at Uxbridge, to ordering materials to stand in order. The good people of Uxbridge could not quite understand who Mr. Chippendale was, but as he employed local labour, and seemed a nice gentleman, they promptly took him into favour, and called the small lane at the side of his house after him.

* * *

The house soon appeared free of scaffolding to delight the passing traveller on the Oxford Road, although the delicacy of the Portland stone pilasters was somewhat obscured by the gigantic tree that stood in the very centre of the parklike acreage. The home of the third of the Chippendales represented the refinement of the latest years of the eighteenth century. The front was frankly in sympathy with the style of Robert Adam. Chippendale, however, tackled the problem of his own house in the spirit of the time. Against the walls of sherry-coloured brick he veneered a skeleton trim of Portland stone with capitals of Athenian grace, and a porch of coupled Ionic columns with attendant pilasters, recalling the mode of Henry Holland. The stroke of genius distinguishing this design is to be found in the treatment of the end walls of the house, which are schemed with slight piers to receive the semicircular bow windows that improve the drawing-room and the dining-room. The fireplaces inside record nothing of Chippendale's character. They, together with the Carron grates, were such as could be bought from any builders' merchant in London at that time. Thomas Chippendale III. believed in modern conveniences, for on the top floor he fitted two cupboards in the back rooms, in front of the windows, to serve as casings for washhand basins.

* * *

In the basement, Thomas planned his wine cellars, his larder, and store cupboards; the kitchen, as originally planned, was a small affair at the back. The building finished, it was furnished with plain mahogany pieces from 60 St. Martin's Lane. There was no space for Chinoiseries; besides, the latter were out of fashion. Thomas had begun to consider his father's taste as out of date, and favoured the current mode. To this rural retreat the artist-designer and polished proprietor of an established business journeyed each week-end to enjoy country felicity, to fish in the Colne, and to receive his friends. Thomas was determined to rise in the social scale. In 1814 we find him opening a shop in the Haymarket, No. 57, still carrying on the old business in St. Martin's Lane, and in 1821, inspired no doubt by the popularity of Nash's Regent Street, he moved to No. 42 Jermyn Street. Here we must leave him, for two years later he had left the realm of furniture to the tender mercies of the Empire designers and the school of Hope, his will being proved by Sarah Wheatley on January 28, 1823.

AERO.

The R.A. and City Churches

In an important memorandum which has just been issued by the Royal Academy, it is recalled that in June, 1920, the President, Sir Aston Webb, K.C.V.O., C.B., P.R.A., invited the principal bodies in London representing architecture, art, and archæology to confer together on the recommendations of the City of London Churches Commission, 1919. Conferences were accordingly held at the Royal Academy, and in July a number of considerations, recommendations, and suggestions were submitted to the Bishop of London. The following excerpts are taken from the memorandum:

"Although the fabrics of the churches are no doubt the main subject to consider, it has to be borne in mind, in addition, that they frequently contain memorials of distinguished citizens, intimately associated with the history of the City or of the country. Removal of the buildings would destroy the significance of such memorials, even if they continued to exist elsewhere. . . .

"It is evident that, in the case of some churches, the great value of the site lies in the churchyards. These are at present protected by Act of Parliament; but it would be a flagrant reversal of the public policy of the last thirty years if these, almost the only remaining open spaces in the City, were to be covered with buildings. . . . .

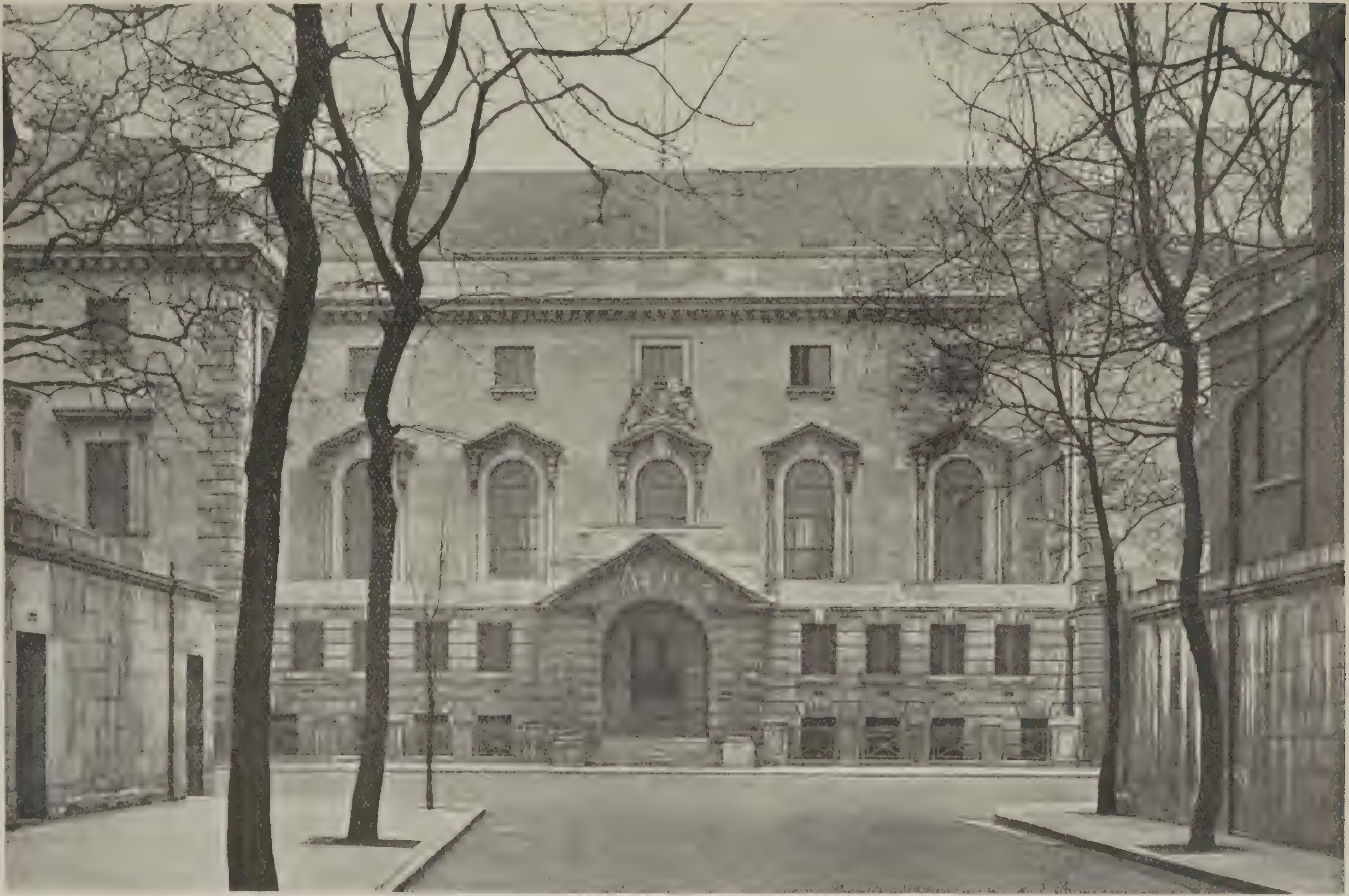
". . . . We consider it is not a solution to remove and re-erect these churches elsewhere. It would be an artistic blunder to re-erect them in any surroundings not identical with the original sites. Archæologically it would be dishonest. Moreover, many of the churches in plan and construction would be singularly unsuited to the needs of a suburban parish."

The Bishop of London, in a reply dated February 16, 1921, says: "No wholesale demolition of nineteen City churches is contemplated. At the present time I am giving my mind to the question of grouping certain of the City parishes, or the possibility of uniting them with poor parishes in the suburbs. It is possible that some few may eventually have to be pulled down or removed, but this would only be done after grave consideration of every case and due regard to the general welfare of the Church at large.

"While I hate myself to remove any old church, I cannot shut my eyes to the pressing question of the poverty of the clergy, and the provision of the spiritual needs of people who have at present no church at all and no means of providing one."

Current Architecture. 66.—New Quarter Sessions House, Newington Causeway, London: Entrance Front

W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the London County Council



The New Quarter Sessions House for the County of London has been erected on the site of the old Sessions House in Newington Causeway, the building, standing back some distance from the roadway, being approached by a paved courtyard. Mr. W. E. Riley is to be congratulated on the production of a very dignified design, and one that completely satisfies the practical requirements involved.

The New Quarter Sessions House for the County of London

AFTER the formation of the County of London in 1889, the work of the London Quarter Sessions was carried on alternately in the Clerkenwell and Newington Sessions Houses, serving north and south London respectively. The inconvenience of this arrangement led to an early movement towards the erection of a new building in which the whole of the work of the London Quarter Sessions could be carried on.

In 1909 the Home Secretary appointed a Departmental Committee under the chairmanship of Lord Alverstone, then Lord Chief Justice of England, to consider and report upon a suitable place for the building, having regard to convenience and economy, for transacting the Quarter Sessions business of the County of London, and evidence was given by Sir Harry Poland, K.C., Sir Edward Clarke, Sir Forrest Fulton, K.C., LL.B., Sir Loveland Loveland, Sir Robert Wallace, K.C., and others. This Committee considered the proposal to amalgamate the London Quarter Sessions with the Central Criminal Court, but found this impracticable, and after consideration of other sites, including those in a more central position, the Committee reported that a central site was desirable from the point of view of convenience, but that in the interests of economy the site of the old Sessions House at Newington was not more inconvenient than other available sites outside the central area, i.e., the vicinity of the Royal Courts of Justice.

The County Council again considered the question of the position of the proposed new buildings, and finally decided to erect a new Quarter Sessions House on the site of the Sessions House, in Newington Causeway. This building has been lately completed.

In September, 1914, the contract for the erection of the Sessions House was entered into with Messrs. W. E. Blake, Ltd., of Fulham, and they completed the carcass of the building, including the plastering and certain of the oak finishings and internal pavings. The work was stopped by the occupation of the building by the Ministry of National Service, in 1917, but in 1919 the work of completion was undertaken by Messrs. Prestige and Co., Ltd. This second contract consisted of the oak panellings of the three courts, committee rooms, corridors, etc., and the oak joinery finishings generally, together with the decorations, external pavings, etc.

The building stands back some distance from Newington Causeway, and the principal entrance and magistrates' entrance are approached by a paved courtyard. The entrance to the Assessments Office is in Union Road, and that for the prison vans in Avonmouth Street.

The building comprises four floors, the lowest being a semi-basement containing the cells, warders' and police rooms, public refreshment room, record rooms, and heating and ventilating plant.

The key to the ground floor consists of the public hall and the courts, which latter, to secure quiet, are approached from the public hall through court lobbies, the courts themselves being surrounded by corridors for easy access from the various parts of the building.

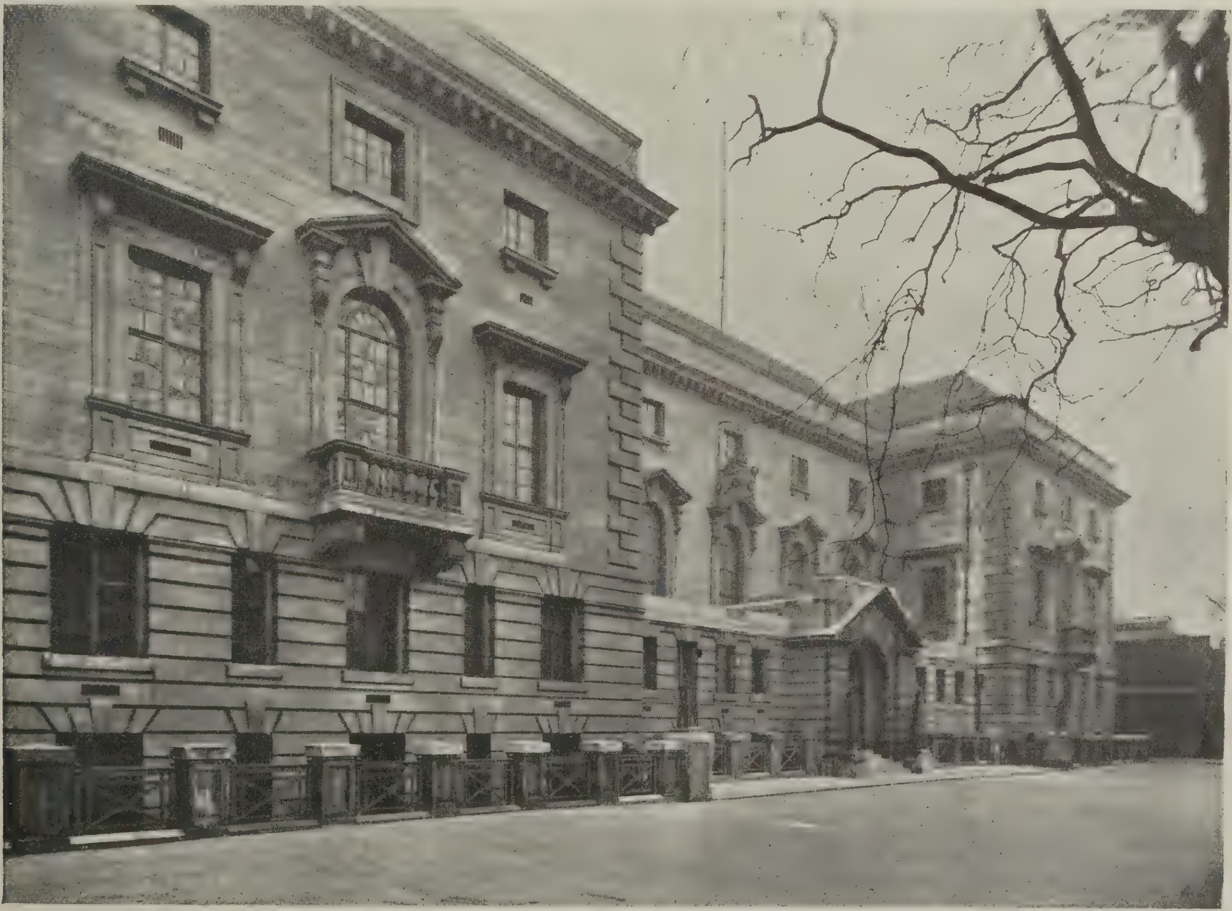
Two of the courts are for the trial of criminal cases, while a third court with movable fittings is used for civil business, assessments, licensing, etc.

Within easy access from the main entrances are the offices of the Clerk of the Peace and Assessment Sessions, while the Judges' rooms are situated at the rear of the courts.

The rooms for the witnesses waiting are approached from the public hall, and rooms for the witnesses and jury for the cases in progress are approached from the courts only.

The first floor contains the grand jury room, with an adjoining witnesses' room, the lady magistrates' retiring room and committee rooms.

On the second floor are the magistrates'



THE NEW QUARTER SESSIONS HOUSE FOR THE COUNTY OF LONDON, NEWINGTON CAUSEWAY.
W. E. RILEY, F.R.I.B.A., OFFICIAL ARCHITECT TO THE L.C.C.

rooms, bar mess and robing rooms, and the kitchen. Residential quarters are provided for the keeper.

Externally the elevations towards Newington Causeway and Union Road are faced with Portland stone with a tooled face, the roofs being covered with Westmoreland slates. The casements throughout are of steel.

Internally the joinery is principally of oak. The walls of the first and second courts, the judges' rooms and committee rooms are panelled, with moulded cornices, while the civil court, the magistrates' rooms, bar mess and robing rooms, grand jury and other committee rooms and corridors have an oak dado with distempered surface over.

The floors of the principal rooms are laid with oak boards, polished, while in the courts, offices, etc., thick cork carpet is laid on the concrete floors.

The ceilings of the criminal courts are of fibrous plaster under a steel and concrete dome.

Two electric passenger lifts are provided, communicating with all floors, and two small electric service lifts are installed for conveyance of coal, etc.

The building, including the heating and ventilation system, was designed and carried out under the superintendence of Mr. W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., the Council's Official Architect for the building, and the installation of electrical work under that of Mr. G. W. Humphreys, C.B.E., M.Inst.C.E., the Engineer to the Council.

The provision of heating and ventilation to the building involved an extensive system of hot-water radiators with forced circulation, and an up-to-date installation of ventilating fans used in conjunction with air-conditioning plant in which the air for supplying the three courts and adjacent rooms is washed, humidified, warmed, or cooled as desired.

With a view to avoiding some of the difficulties experienced in other courts, the ventilating system was designed to give the greatest possible elasticity in operation.

The courts are partly warmed by direct radiation, which renders it possible to supply the air from the fans at a lower temperature than would otherwise be the case; and, in order to comply with the condition that open windows must be permissible, it was decided to provide for an upward current of air.

Both blower and extract fans have been provided for dealing with the courts, and these, together with the air-conditioning apparatus, are situated in rooms in the basement, constructed with double walls and a false ceiling to reduce the risk of transmitting sound.

The extract fans are so connected that they can be used to remove the whole of the vitiated air from the upper part of the courts; or, when desired, a certain proportion from the floor level, with the object of removing dust and maintaining a slight circulation in the enclosures formed by the jury boxes and other fittings.

The air inlets are well distributed, so as to avoid direct currents meeting the occupants, and the velocity has been kept very low.

The ventilating plant, which was supplied and erected by the Buffalo Forge Company, includes two of the firm's "Carrier" air washers with automatic humidity control.

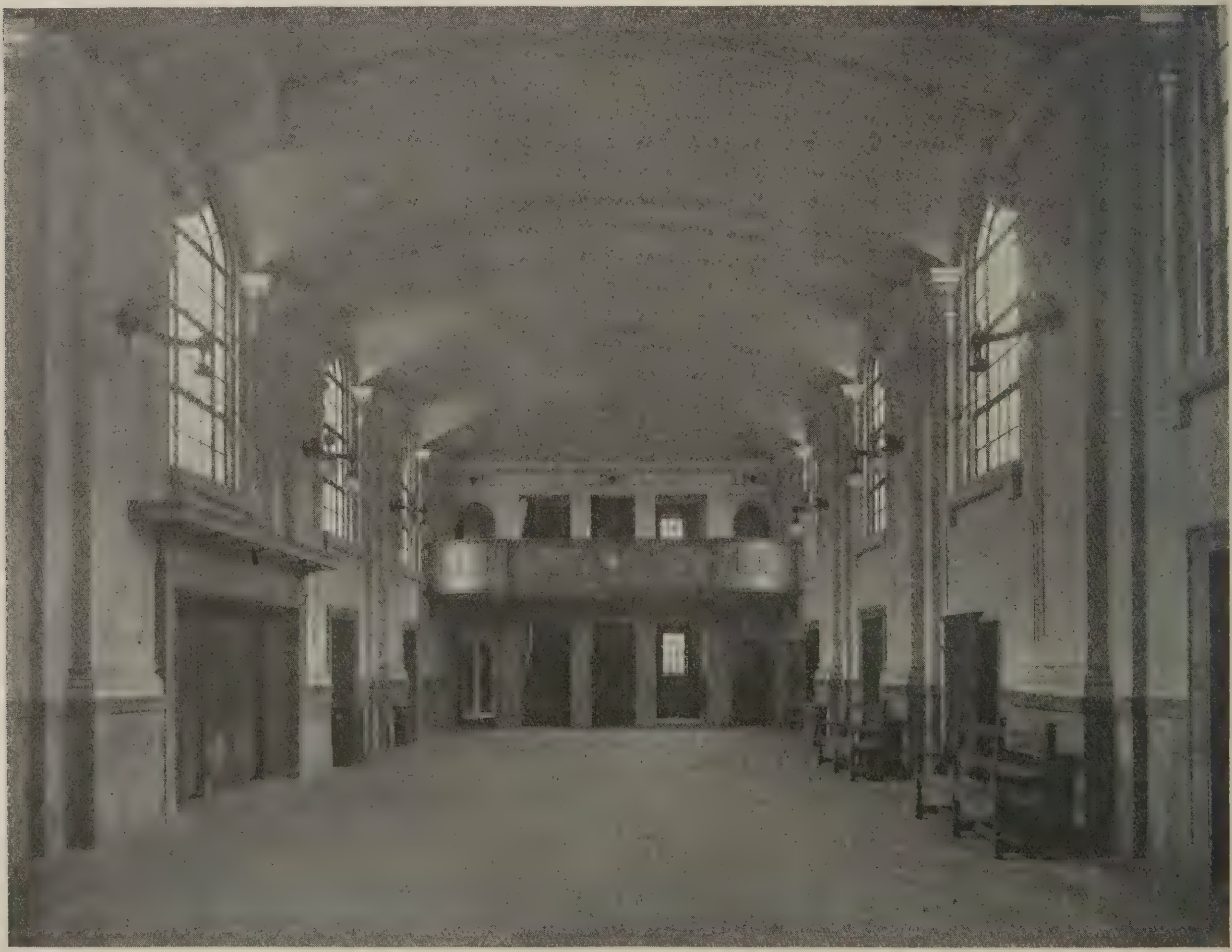
In each of the two basement ventilating chambers a tempering battery is provided for use when initial warming of the air is desirable, and there is a by-pass to allow of the air passing directly from the intake shaft to the humidifier.

In its passage through the humidifier, the air encounters a dense spray issuing from specially designed nozzles, the necessary water pressure being provided by a centrifugal pump driven by motor. After thorough saturation the air pursues a zigzag passage through a series of baffle plates, down which a stream of water is flowing, and the surplus or free moisture is then removed by similarly arranged eliminator plates.

The air at this stage is saturated and is maintained automatically at a constant temperature, so that when reheated on its passage to the courts the relative humidity is kept within suitable limits.

The third, or "Civil," court, having movable fittings and furniture, required somewhat different treatment from the two criminal courts, but in this case the air can be introduced at either of three different levels, and is also removed at the ceiling level.

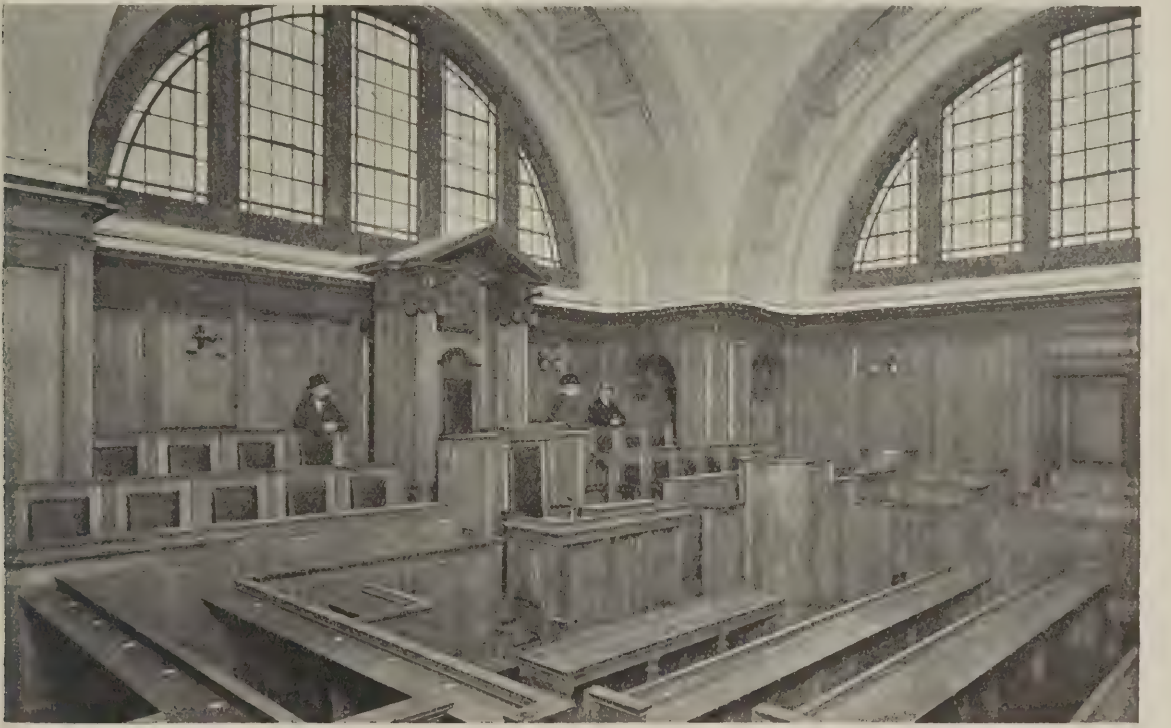
The air ducts are so arranged that the

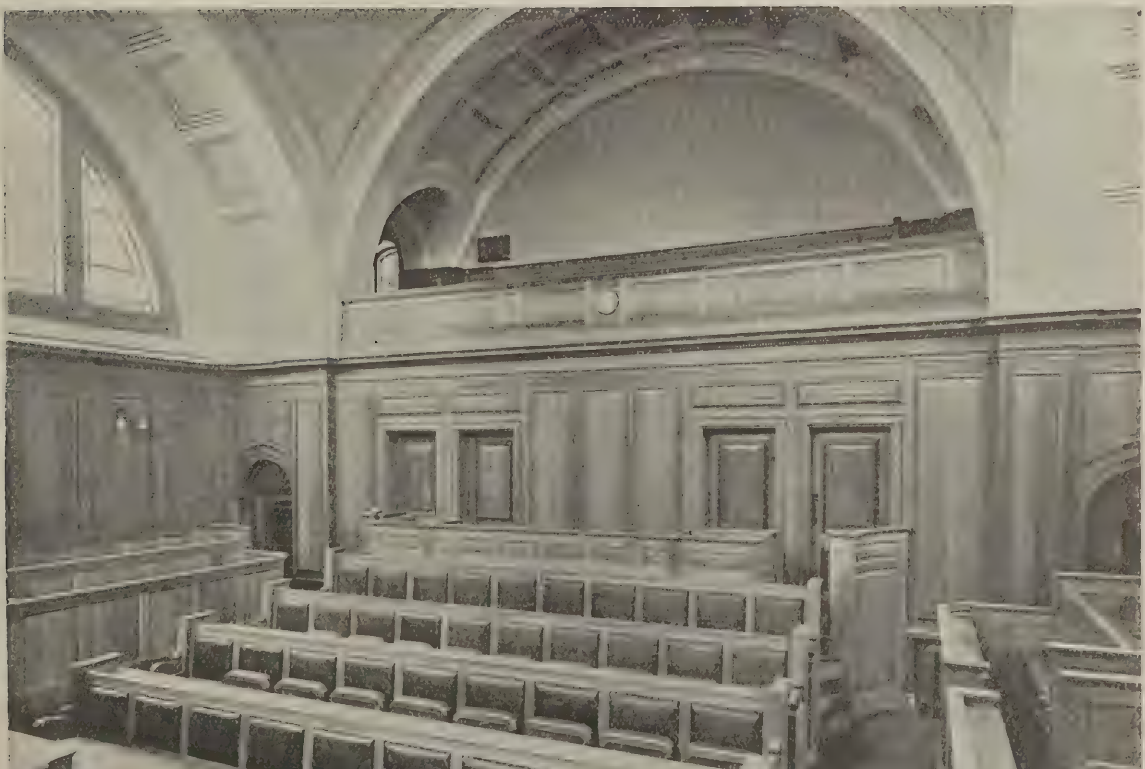


THE NEW QUARTER SESSIONS HOUSE, NEWINGTON CAUSEWAY: PUBLIC HALL.
W. E. RILEY, F.R.I.B.A, OFFICIAL ARCHITECT TO THE L.C.C.

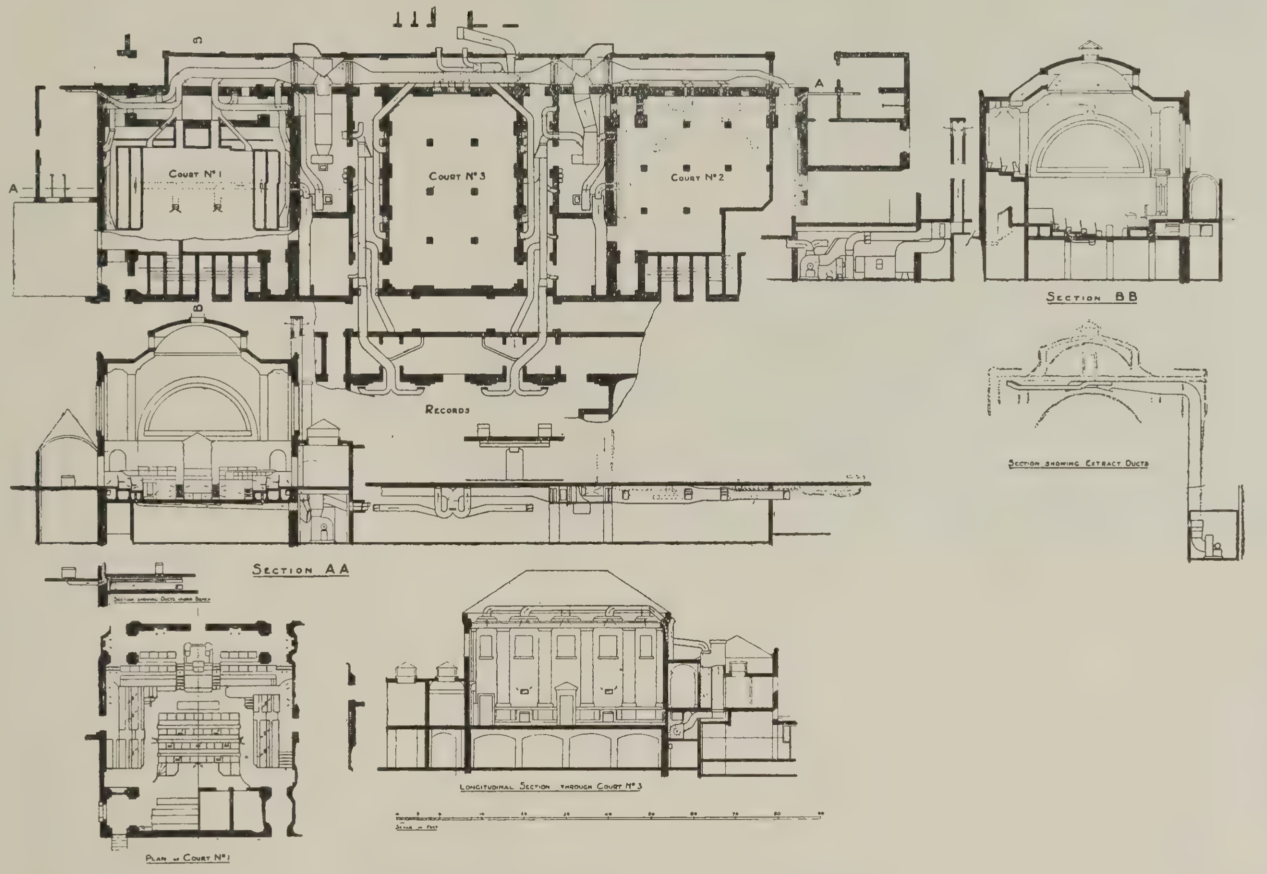
Current Architecture. 67.—New Quarter Sessions House, Newington Causeway, London: Court No. 2

W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the London County Council

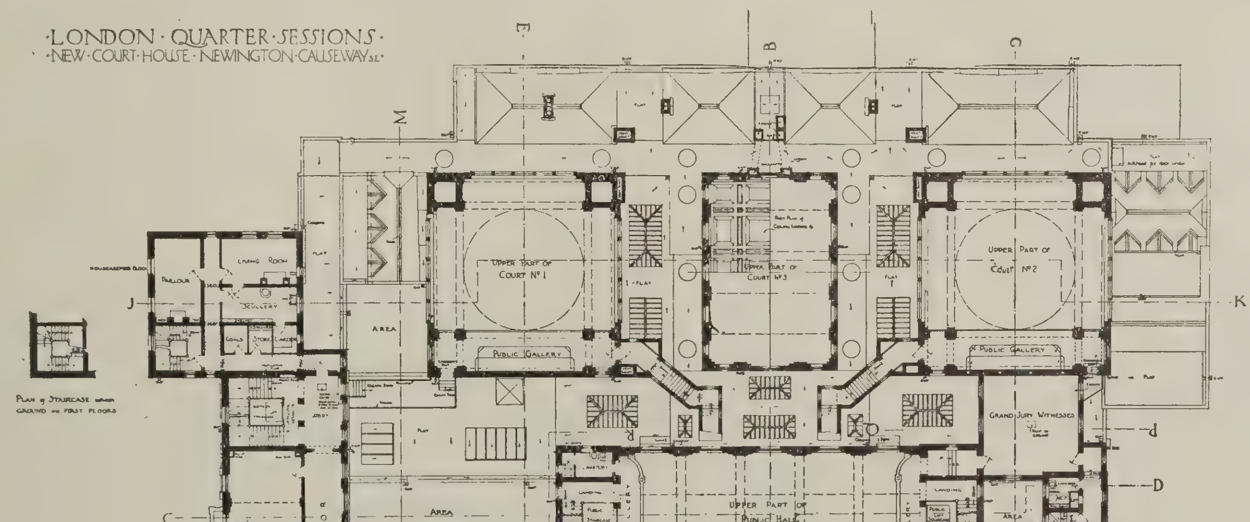




The New Quarter Sessions House in Newington Causeway contains three large, well designed court rooms, two being for the trial of criminal cases, and the third (the middle one) reserved for civil business, assessments, licensing, etc. Courts Nos. 1 and 2 are identical in planning and equipment. The above views should be studied in conjunction with the plans reproduced on the double-page plate.

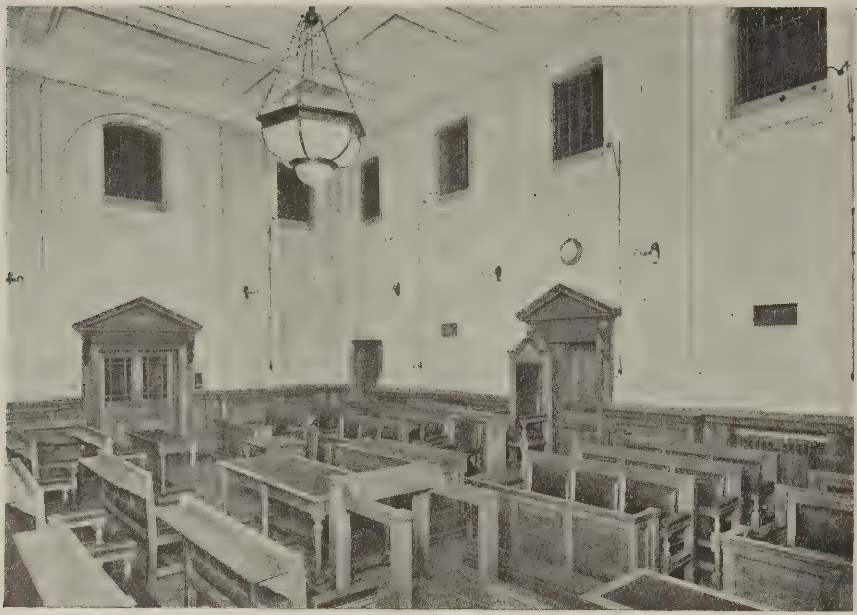


Plans and sections showing duct work of ventilating plant.



NEW QUARTER SESSIONS HOUSE, FOR THE COUNTY OF LONDON, NEWINGTON CAUSEWAY.

W. E. RILEY, F.R.I.B.A., OFFICIAL ARCHITECT TO THE L.C.C.



NEW QUARTER SESSIONS HOUSE: COURT NO. 3.

installation in either ventilating chamber can be used for one, two, or three courts, but the capacity has been based upon the maximum requirements of one court when supplied from the one set of apparatus.

The ranges of cells are heated by hot-water pipes and ventilated by small sets of motor driven extract fans connected to each range of cells by iron ducts with regulated gratings.

A system of electric clocks is installed in the building, the master clock being the short pendulum type. The receiving clocks, of which there are fifty-six, were made to the special design of the L.C.C. engineer, and fit into the oak panelling in most of the rooms. The system is worked in two circuits in parallel, and the motive power is supplied by a small battery of Fuller block accumulator cells. The important feature of the system is that the receiving clocks are actuated on a patented rotary armature principle, and thus perfect uniformity of working is absolutely assured.

The general contractors for the work were Messrs. W. E. Blake, Ltd., London, and Messrs. Prestige and Co., London (oak panelling, flooring, and joinery). The sub-contractors were: heating and ventilating, The Buffalo Force Company, London; the whole of the fibrous plaster work, including ceilings and cornices, Messrs. G. Jackson and Sons, Ltd., London; lifts, Messrs. Waygood-Otis, Ltd., London; lift enclosures, The Birmingham Guild, London; steel casements and glazing, Messrs. Helliwell and Co., Ltd., London; lamp standards, Messrs. George Wragge, Ltd., Manchester; wood carving, Mr. C. H. Mabey, London; asphalt and paving, The Limmer and Trinidad Lake Asphalt Co., Ltd., London; floor and wall tiling, Messrs. Minton's, Ltd., London, and Messrs. Rust's Vitreous Mosaic Co., London; tar paving, Messrs. A. C. W. Hobman and Co., London; sanitary fittings, Messrs. Shanks and Co., Glasgow, and Doulton and Co., Lambeth; electric installation, The Alpha Manufacturing Co., London; clocks, Silent Electric Clock Co., Ltd., London; fittings, Messrs. Simplex Conduits, Ltd., Birmingham, and Messrs. Strode and Co., London.

Competition News

Lockerbie War Memorial.

The designs—121 in number—for this memorial, have been submitted for adjudication to Mr. Washington Browne, of Edinburgh, architect, who has placed first that of Mr. James B. Dunn, A.R.S.A., F.R.I.B.A., of 14, Frederick Street, Edinburgh. The assessor, in reporting to the committee, says: The designs in which sculpture and architecture are combined seemed to me to present the best treatment for a war memorial on this site, and the designs in this group were for the most part of a very high order. After a searching comparison of these designs I have reached the conclusion that the design which best fulfils the purpose within the prescribed cost is No. 84. In this design the dignity attained by the fine setting upon the severe platform, the restraint of the pedestal which, nevertheless, has a highly decorative effect by reason of the proper placing of the panels and enrichments, the vigour and eminent quality of the figure of "Victory" all combine to constitute a design of exceptional distinction, while the dimensions of the composition and the nature of the materials to be used, granite and bronze, will contrast with the surroundings, and avoid any comparison as to size. Altogether, it will be an arresting memorial, an added beauty to Lockerbie, and a worthy tribute to the memory of its fallen heroes. The author of this design has furnished a detailed estimate of cost, the various items of which are confirmed by my own experience of costs, and will at once explain to the committee why other able designs on a vastly more ambitious scale have been set aside.

London County and Westminster Bank, Lothbury.

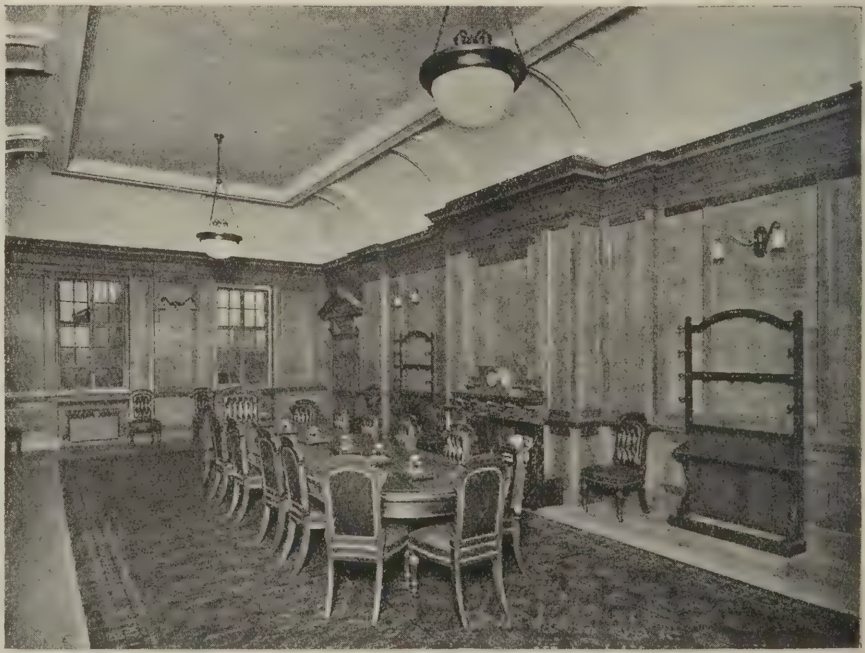
In the limited competition for the rebuilding of the London County and Westminster Bank, Lothbury (erected from the designs of Cockerell and Tite in 1837), the design submitted by Mr. Arthur J. Davis, F.R.I.B.A. (of the firm of Mewès and Davis), has been given first place.

East Ham General Hospital.

The following awards have been made by the assessor, Mr. George Hubbard, F.S.A., F.R.I.B.A., in the competition for designs for a general hospital for East Ham: First, Messrs. F. E. Mennie, A.R.I.B.A., and C. B. Smith, 214 Bishopsgate, London; second, Captain H. T. Wright, 5 The Grove, Gosforth, Newcastle-upon-Tyne; third, Messrs. S. N. Cooke and W. H. Twist, 83 Colmore Row, Birmingham. Eighty-seven designs were submitted.

Renfrew and Rothesay War Memorial Competitions.

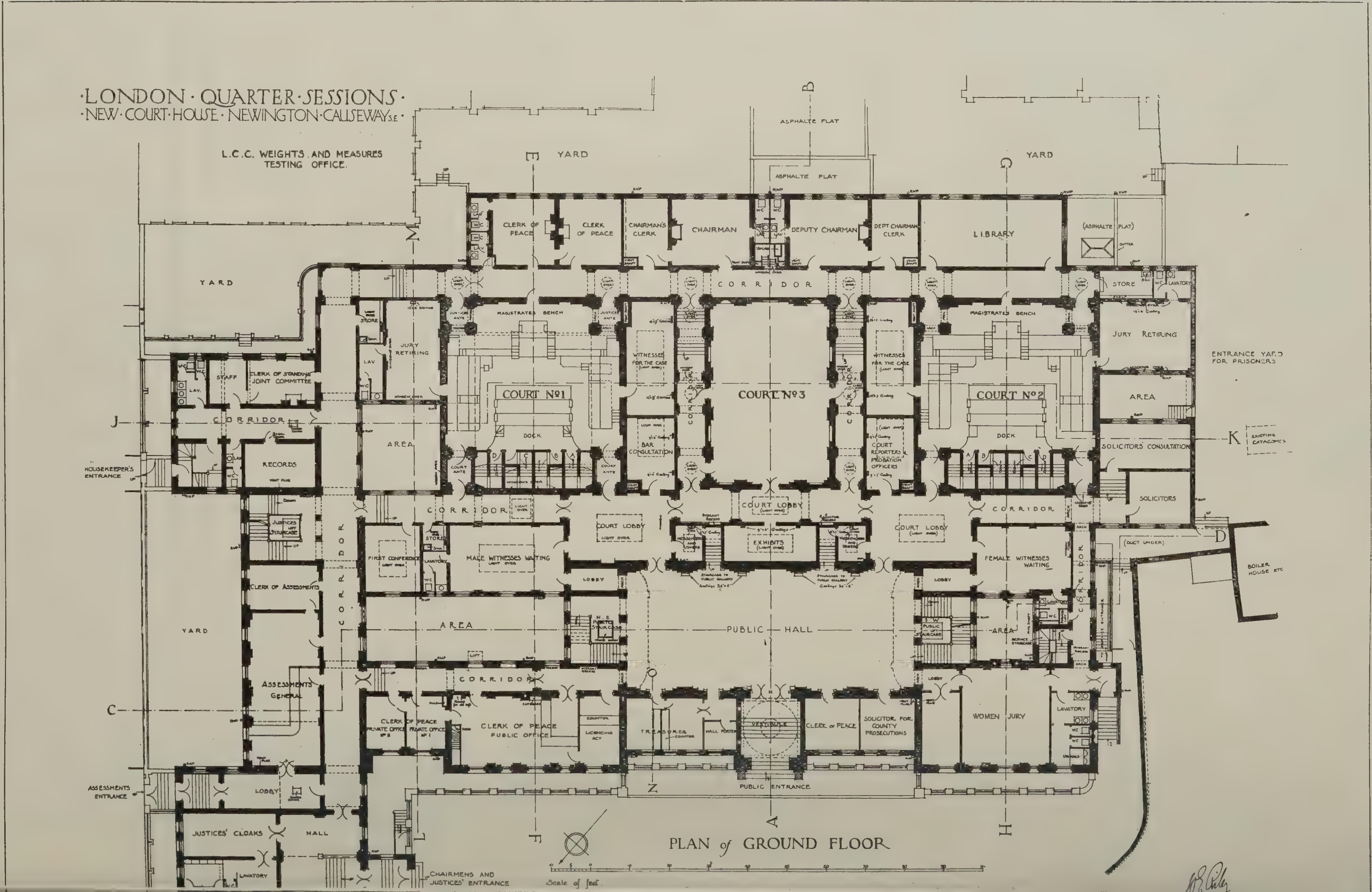
The R.I.B.A. and the Society of Architects call the attention of their members to the fact that the conditions of the above competitions are unsatisfactory. Negotiations are being made with the promoters in the hope of securing an amendment, and in the meantime members are advised to take no part in the competitions.

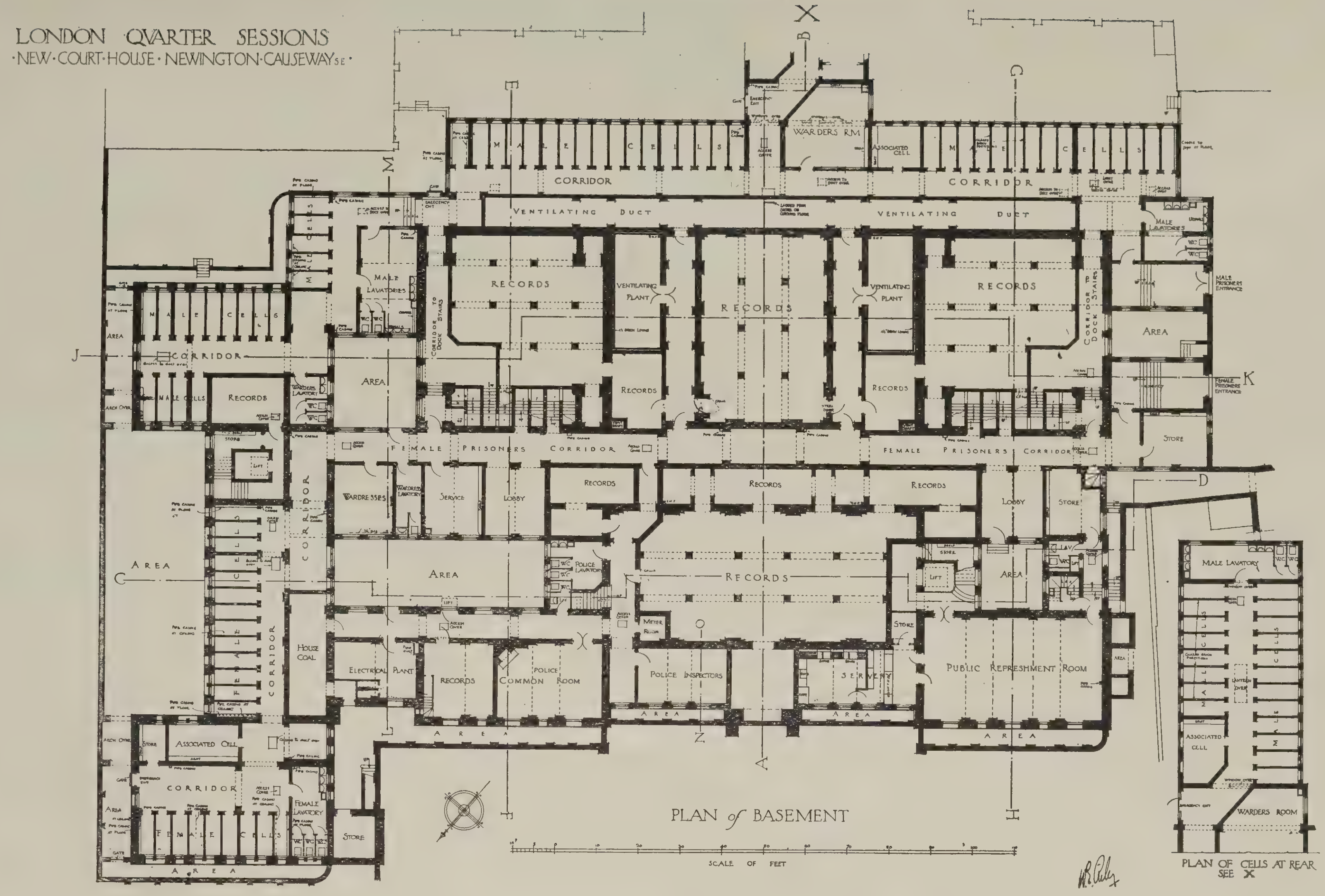


NEW QUARTER SESSIONS HOUSE: ONE OF THE COMMITTEE ROOMS.

Architects' Working Drawings. 31.—Plans of New Quarter Sessions House Newington Causeway, London

W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the London County Council





This building comprises four floors, the lowest being a semi-basement containing the cells, warders' and police rooms, public refreshment room, records rooms, and heating and ventilating plant. On the ground floor are the public hall and the courts, which latter, to secure quietness, are approached from the public hall through court lobbies, the courts themselves being surrounded by corridors, for easy access from the various parts of the building.

The Measure of Output in Building*

By T. SUMNER SMITH, M.Q.S.A., F.I.Ar.

THE acceleration of output is, if not the chief, one of the greatest concerns of the industrial world to-day. All efforts in the past have been directed mainly in perfecting machinery and processes, but it has come to be realised that the human element is, after all, an important factor. The subject enters upon many fields of investigation, and my remarks, therefore, will be more in the nature of guidance in the collection and study of data accumulated during these investigations. From my study I have ventured to foreshadow the inauguration of a new era in the measure of output in building.

In no branch of industry does the human factor play a greater part than in building, where the greatest efficiency is needed as well as the greatest speed. Given the best administration possible, good organisation, best workshop conditions, and the most perfect machinery, to attain the maximum output the highest skill and intelligence and the greatest speed must be applied. How to ensure the latter is the problem of the day.

After dealing with the various systems upon which wages are paid in the building and engineering trades, Mr. Sumner Smith comes to the conclusion that in the former a system of payment by result is desirable and necessary as a special reward for skill in the acceleration of output. Proceeding, he said: In my book on "Concise Costing for Housing," I suggested a system which, in my opinion, would meet the case. It is as follows: "Groups of workmen, including the foreman, should receive by way of bonus 50 per cent. of the value of the increased output, the employer to take 15 per cent., and the remaining 35 per cent. should be set aside and a fund created termed a 'bonus fund.' A proportion of this bonus fund, say 75 per cent., might be distributed annually and divided amongst all employees in proportion, in accordance with their re pective wages, the remaining 25 per cent. distributed amongst those employees who had shown special aptitude and put in regular attendance at their work."

This method takes into consideration rewards for a group of workmen engaged upon a special task, rewards for individual merit, whilst in addition the workmen would participate in the collective reward. The method would also benefit the employer to a certain extent. Before this scheme could be put into operation constants of labour for rate-fixing purposes would have to be set up, and these should be upon a broad and equitable basis.

In engaging workers in the past, and even to-day, due regard has not been given to their fitness—physical and mental—for the task to be performed. A science of interviewing, based upon psychological and economic principles, has been in process of construction for some time, and its first fruits of appointing trained persons to deal with special problems of employment in various works and factories are seen in practice.

It is estimated that to train a man for a permanency costs, on the average, £100 a year. Thus a manager can save or lose hundreds of pounds annually for his firm, according to whether his methods of selection are good or otherwise. It must be obvious that the following conditions of employment are essential before a maximum output per man can be attained: First, hygienic and efficient workshop conditions; and, secondly, proper grading and selection of workmen for the job on an equal footing for fair and average competition.

Turning to education and training, which Mr. Sumner Smith described as vital factors in production, he said: By education and training I do not mean merely general education, ordinary technical training and workshop practice, but special education and training, and practice in a special way for special purposes. It should be possible to train the average human being so that he could be relied upon to do a specified task, and do it remarkably well, in the least possible time, without undue fatigue, and with profit and pleasure to himself. Time and motion studies should be an aid in this direction. Data derived from this source, applied intelligently and scientifically, should lead to increased efficiency in human labour, with a corresponding increase in output without undue fatigue.

Much of what I have said with regard to increased output would depend upon sound administration, without which you cannot hope to have a well-governed and a well-regulated industrial concern. Though you may have a perfect system in operation, its success will depend largely upon the personality of the manager—be he owner or paid servant. In addition to possessing a technical and business knowledge appertaining to the concern, he must be able to organise successfully, direct the work through all its successive stages, maintain discipline, and command respect from those occupying a subordinate position.

There are too many rule-of-thumb methods and obstacles in the building trade to give management a real chance of displaying its possibilities, and all these tend to retard production. The three outstanding features are: (1) Standardisation and mass production; (2) design and control; (3) estimating and costing.

With regard to design and control, and comparing the engineering with the building trade, we find that in the former it is the general practice for them to make their

NEW QUARTER SESSIONS HOUSE, NEWINGTON CAUSEWAY: VIEW IN CELLS CORRIDOR

---

*Extracts from a paper read at a public meeting of the Institute of Industrial Administration.

JUSTICES' COMMON ROOM, NEW QUARTER SESSIONS HOUSE.

own drawings, settle the details, and control the policy, whereas builders are hampered in a great number of cases by incomplete drawings and a lack of details from the architects, preventing the planning of work ahead. Sometimes the scheme is not thoroughly matured or fully developed until the work is well advanced, and this oft-times seriously affects the general policy of directing and organising the work.

The ordinary system of quantity surveying is by far the greatest cause of the defects in estimating, and it also keeps back the adoption of costing systems. In the best engineering works they estimate the cost of materials from their own particulars of quantities of materials of each component part, as distinct from an estimate of the time it will take to do the job, and then the various on-costs are added to the whole. The ordinary system of quantity surveying in vogue in the building trade lumps all these together, and this makes it practically impossible to formulate a correct estimate without a minute analysis of the component parts of each item, which is a colossal task. This will be quite clear when you consider that almost every item contains two variable units—material and labour. Again, many items contain different kinds of materials, such as will be found in brickwork, slating, and plastering, and these are expressed in different terms from those by which they are purchased. This involves the conversion from terms of purchase into terms of measurement when estimating, and back again into terms of purchase when ordering.

Before anything can be seriously attempted in this direction, it would seem to be necessary to establish constants for materials,—i.e., materials converted from measurement terms into purchase terms. In this respect the trade is badly served.

I now deal with the subject of costing, which will bring my paper to a close. By the adoption of practical bills of quantities costing could be used to check estimating, and the data obtained therefrom would also be a valuable guide in future estimating. After quoting an example from his book on "Concise Costing for Housing," he said: It is possible by costing to arrive at the time taken for each unit of labour for any specified task. Then, by means of costing with the resultant establishment of constants of labour, payment by results could be adopted. These could form the basis of rate-fixing, and if founded upon the principles of equity should assure success.

It will be clear that there is much scope for improvement and much leeway to make up in the building trade before output can be measured in the terms of maximum efficiency.

Royal Academy "Sending-In" Day

The "Sending-In" Day for Architectural Drawings for the 1921 Exhibition of the Royal Academy has been fixed for to-morrow (March 24) and sculpture has to be sent in by Wednesday, March 30; no works will, in any circumstances, be received after these dates. In submitting, the following conditions should be observed:

Small photographs of architecture and architectural sculpture not exceeding "half-plate" size will be admitted, but only in connection with working drawings and included in the same frame. Good geometrical drawings of moderate size are desirable. Architectural drawings which are the work of an artist other than the designer must have the name of the draughtsman clearly inscribed on the mount, but the draughtsman's name will not be included in the catalogue.

All works must be delivered at the Burlington Gardens entrance of the Royal Academy between the hours of 8 a.m. and 10 p.m. No artist is allowed to send or to exhibit more than three separate works. The necessary forms and labels that must accompany works submitted may be obtained on application to the Academy, together with a printed notice giving full particulars relating to the size of frames, margins, etc. We shall be glad to act as delivery agents for any of our readers in the provinces, provided that drawings reach us not later than mid-day to-morrow.

The exhibition opens on Monday, May 2, and closes on Saturday, August 6.

DRINKING FOUNTAIN IN COURTYARD OF NEW QUARTER SESSIONS HOUSE.

The Design of Cottage Hospitals*

By H. PERCY ADAMS, F.R.I.B.A.

THE object of a cottage hospital is to provide readily accommodation for the sick poor in districts situated long distances from towns having general hospitals; to enable local doctors to treat their poorer patients under favourable conditions, and to allow local and visiting surgeons to perform operations which otherwise would have to be sent long distances to the general hospital.

Cottage hospitals are of two distinct types: those that have been converted from existing buildings and those that have been built for this purpose. In the former, the original building has probably largely governed the plan, as at Cranleigh, where a Surrey cottage was converted at a cost of £50. In a new building there is more opportunity of arriving at the ideal, both in the plan and detail. New buildings are also of two classes: the permanent, of brick, stone, or concrete; and the semi-permanent, such as wood-framed buildings and those built of slab partitions, etc.

A cottage hospital is generally understood to be one containing any number from three to twenty, or even to thirty, beds; above that number they become general hospitals. Much the same rules apply in designing and constructing both. Approximately the number of beds provided in the country districts where cottage hospitals exist is about four per thousand of the population. As to the cost of building, this at the present time is very difficult to arrive at; probably about 2s. 6d. a foot cube would be somewhere near the mark, but approximating the cost at so much per bed is always elusive and a very deceptive method of arriving at the cost of any hospital, as so much depends on the surroundings, the nature of the site, local conditions, and the accommodation provided, and these all vary enormously.

The site should be easy of access for patients and medical officer, and as far as possible ought to have a gravel subsoil—not clay, be dry, thoroughly well-drained, clean, and well raised above the surrounding country in a sunny position, sheltered from cold winds, free from drainage from higher ground (which should be intercepted if necessary); there should not be many large trees near the buildings as they attract moisture and interfere with the free circulation of air. If expense is not of great importance, it is well to have the ward floors well above the ground level, and the surface of the building site should always be covered with a layer of concrete. A good water supply is essential, and it is a great advantage to be able to connect the drainage to a main system.

The general arrangement of the plan depends largely on the number of beds to be provided; there are many details considered essential in a general hospital that are not possible in a cottage hospital. Quite small buildings are usually in one block and provide for about six beds, generally consisting of a male ward for two or three beds, female wards for two or three beds, a single-bed ward, a bath room, a sink room and w.c. for each sex, and for administration; a kitchen, scullery and larder, an operation room, a small dispensary, a sitting-room and three bedrooms for nurses and servants, a staff w.c., a shed for fuel and ambulance. From six beds upwards there is a tendency in most plans to obtain more complete separation of the kitchen department from the wards, undoubtedly a great advantage to the patients.

The accommodation is usually a male ward of from four to eight beds, female ward of from four to eight beds, one or two single-bed wards, bath room, sink room, and w.c. for each sex, ward kitchen, larder, linen room, store for patients' clothes, operating room, with possibly small sterilising room adjoining, a doctors' room or dispensary, nurses' sitting room, and two to four nurses' bedrooms, servants' bedrooms, bath room, and w.c., general kitchen, scullery, small pantry, larder, store room, stores for fuel, a detached mortuary and ambulance shed. The larger cottage hospitals for over twenty beds more or less follow the pavilion type of plan, and are really miniature general hospitals.

Some Typical Examples

After giving a very full and informative account of cottage hospital planning and equipment, Mr. Adams described a number of buildings, among them the following selected examples:

Mancot Cottage Hospital, near Chester, was erected in 1916 in connection with the Government housing scheme at Mancot. It is an interesting plan on quite different lines to any other cottage hospital. The wards, with their sanitary annexes, occupy the whole of the southern side of the block; the operating room, with north aspect, is centrally placed; the kitchen and female staff quarters are in the west wing, and the medical officers' quarters in the east wing. The plan is compact and economical; the wards are not cross ventilated by windows, although the position of the ward doors opposite the corridor windows would assist the ventilation, and for six beds the cubic contents for these wards is only 770 ft. per bed. The ventilation is assisted by tubes and roof extracts, a rather out-of-date method in hospital work. The architect was Mr. Raymond Unwin.

Staines Cottage Hospital was erected in 1914, and is quite a model little hospital. The plan is Y-shaped, with the arms forming the wards facing south. Each ward is planned for three adults and one child, and there are verandahs on two sides of each ward. Unfortunately, the doors leading on to them are too narrow for the patients' beds to be wheeled through; there is cross ventilation of the ward by small sash windows and a large window at the end of the ward with lower sashes folding horizontally one over the other and with a fanlight above the transome. Between the wards is a small room used by the night nurse when on duty, and having small spy windows looking into the two wards. At night, with an electric light in this room, it is not necessary to have any light in the wards. The sterilising is done in the bathroom, and for a small hospital seems a good arrangement, especially as the bathroom is planned adjoining the operating room. The operating room is very small, but well lighted with a top and side light, and well fitted; all the service pipes to the fittings are concealed by wood casing, enamelled white to match the walls. The floor is of white terrazzo. A small dispensary is entered through this room. The heating is by a radiator supplied from a boiler at the back of the dining-room fire, and this is supplemented as occasion requires by electric radiators. The front block, facing north and looking on to the main road, contains the kitchen, scullery, and larder on one side of the hall, and on the other the nurses' dining-room and sisters' bedroom. On the first floor are the matron's, night nurses', and servants' bedrooms—unfortunately, the night nurses' bedroom is directly over the operating room, the noise from which is often very disturbing. All the ground floor rooms, with the exception of the operating room, have solid concrete floors covered with linoleum, wax-polished, and red tile skirtings. All the joinery work on the ground floor is enamelled white, excepting in the kitchen department, where it is grey, and on the first floor it is all stained. The building is lighted with electricity from the company's mains; each patient's bed has a movable wall bracket that can be used as a table or hand lamp, and telephones are connected to the bed wiring. There is a small isolated building for mortuary, with a knife house and coal store. The elevations are very picturesque, standing in well-laid-out grounds, and the whole was carried out for the extremely low figure of £1,250, and reflects the greatest credit on the architect, Mr. Leslie Moore.

Hendon Cottage Hospital was built in 1913 as a memorial to King Edward VII., and is designed on a Y-shaped plan, each arm consisting of a three-bed ward 20 ft. by 19 ft. by 12 ft., with ample verandahs and with sanitary annexe containing w.c., sink, and lavatory well cut off by a cross ventilated lobby; the bath and ward kitchen are placed between the wards and entered from a well-lighted corridor shut off by swing doors from the administration section. This is two floors high, and the ground floor consists of an operating room with good top and side light, and a terrazzo floor, a single-bed ward, a small dispensary, kitchen, scullery, larder, and outbuilding containing coal house, ambulance shed, tool house, and w.c. On the first floor are bedrooms for matron, two nurses, and two servants, bath room, w.c., housemaid's closet and linen cupboard. Recently an addition has been made consisting of a kitchen and scullery with two bedrooms, and the original kitchen is now used as a nurses' dining-room. The floors are all concrete on the ground floor, and covered with linoleum in the wards, wood-blocks in the kitchen, terrazzo in the operating room and bath room, and tiles in the hall and corridor. The hospital is very similar in plan to those at Wells and Staines and carefully thought out in all its details. The cost of the building was £2,250. The architect was Mr. W. A. Forsyth.

Beaworthy Cottage Hospital was erected in 1903. The wards have good aspect but no cross ventilation, and the sanitary block is well cut off from the corridor. It contains only a w.c. and no slop sink; the wards are too far apart to be easily supervised; many of the rooms in the building face due North; the children's ward looks over the railway, and the reason for this, the architect states, was that it was the only entertainment they were likely to get near the site. The floors of the corridors are paved with tiles, which are generally noisy. The elevations are quite interesting. The architect was Mr. C. F. A. Voysey.

---

* Extracts from a paper read before the R.I.B.A. on Monday, February 14.

Woburn Cottage Hospital was erected by his Grace the Duke of Bedford in 1903. There is a separate isolation block, and in one corner of the site, hidden by a well-shrubbed bank, a mortuary. The sketch plans of the hospital were made by the Duchess of Bedford, who took the greatest interest in every detail of the work. The hospital is planned for twelve patients, six of each sex: on the right of the entrance is the men's ward with five beds and a single-bed ward, and on the left the women's wards are similarly arranged. The sanitary annexes are on the northern side adjoining the wards. The large wards are 27 ft. by 24 ft. and 12 ft. high, with segmental ceilings, the floors being of teak, waxed and polished.

Crewkerne Cottage Hospital, Somerset, was erected in 1903 on an ample and prettily laid-out site. It is planned for fifteen beds, seven of each sex on the ground floor, and a special isolation ward on the first floor. The large wards for six patients are each 33 ft. by 20 ft. and 11 ft. high, with windows east and west, and with the sanitary annexes at the ends; a bath room, common to both sexes, is entered from the corridor. Also in the front block is a board room, a staff sitting-room, the matron's bedroom, and an operating room with west and north windows. The kitchen department is on a slightly lower level and cut off by a swing door. No pantry is provided. On the first floor are three good bedrooms for nurses and servants, with bath room and w.c. The floors of the wards and operating room are of papyrolith. To the west of the main block is an isolated building containing a laundry, ambulance shed, and coal store, and a mortuary, and adjoining is a surgery for out-patients, rather an unusual feature in this position. The cost of the building was about £4,000. Messrs. Keith Young and Hall were the architects.

Lanfine Cottage Hospital was built in 1904 in connection with the Broomhill Homes, near Glasgow, and is intended for incurable cases of consumption, and is therefore rather different to an ordinary cottage hospital. The large wards, each of eight beds, are well placed to obtain the maximum of sun, and have large verandahs on the southern sides. The wards are 12 ft. high and have a cubic area of 1,100 ft. per bed. The ward floors are of polished maple and the walls are finished cement painted. The windows are double hung sashes, with a fanlight over. The warming is by open fireplace, supplemented by radiators fixed under some of the windows. The cost was £4,000, given by Miss Brown, of Lanfine, and the architects were Messrs. Salmon, of Glasgow.

Larne Cottage Hospital, Antrim, was erected by the munificence of Mr. Smiley, and is for twenty-two beds. The plan is Y-shaped, with a centre block of two floors and side wings of one floor. The plan has an unusual arrangement of what may be called double wards—one part for six beds, and the other part can be used either as a day room or as an extension for four beds. The hospital is heated by open fires, supplemented by low pressure hot-water radiators. The cost was approximately £5,000; the architect was Mr. Fitzsimmons.

Warde Aldam Cottage Hospital was erected in 1911 for the Carlton Main Colliery Company, and is on a Y-shaped plan, with southerly aspect for the wards. The accommodation is for twenty beds—a male ward for twelve beds, a female ward for six beds, and two private wards. The sanitary arrangements are near to the ward entrances and have no ventilated lobbies; although these were originally contemplated they were cut out on account of the extra expense. The arrangement of the large wards with the duty room between them is undoubtedly the most economical plan for administration. The operating room has a good north top and side light and anæsthetic and sterilising rooms. The kitchen and offices are in the east wing, one floor high. On the first floor of the administrative block are eight bedrooms, bathroom, and w.c., and housekeeper's sitting-room. The floors of the operating department and the ward kitchen are of terrazzo; all the other floors of terralith, including the wards. The cost of this hospital was £4,325, including £517 for the laundry and mortuary. The architect was Mr. E. Holsworth Walker.

Cockermouth Cottage Hospital.—This interesting little hospital is built on land in Park Lane, presented by Lord Leconfield, with solid brick walls and rough casted externally. The entrance is well arranged on the west side, leaving the whole south front undisturbed for patients; the large wards are 21 ft. by 20 ft. and 11 ft. high, and the administration rooms generally 8 ft. high. The floors on the ground level are solid and raised about 18 in. above the surrounding ground. There is a splendid verandah, facing due south, for the use of patients. Mr. Guy Dawber was the architect.

Obituary

Mr. Arthur Hill, F.R.I.B.A.

We deeply regret to announce the death of Mr. Arthur Hill, F.R.I.B.A., M.A., B.E., F.R.I.A.I., Member of the Royal Irish Academy, which has taken place at his residence, Redgarth, Douglas Road, Cork. The following biographical notes have been courteously supplied by his son, Mr. Henry H. Hill, B.A., A.R.I.B.A.

"Arthur Hill was born in Cork on June 8, 1846. His father, Henry Hill, also an architect, sent him early to the local school of art, while a little later he attended a private school for his general education, proceeding afterwards to Queen's College, Cork, where he graduated Bachelor of Engineering in the year 1869. About this time he went to London, and served for a short time in the office of the late Thomas Henry Wyatt when this architect was building the Liverpool Cotton Exchange.

"Outside pupilage, facilities for the study of architecture were few in those days. My father, however, went to University College, where he sat at the feet of Professor Hayten Lewis, and gained, in 1868, the Donaldson Silver Medal. He became a Life Student at the Royal Academy; but I think no classes were held then. However, the silver medal was awarded to him in 1871 for his measured drawing of the round part of the Temple Church. I believe he attended a design class at the A.A., of which he became a member in 1867, and he also spent a considerable amount of his time drawing at the West London School of Art.

"The sketching furore of the period did not leave him unscathed, and he made several Continental trips for this purpose, chiefly under the guidance of Edmund Sharpe, of which an excursion to the West of France, ending in the publication by the A.A. of a book, 'The Domed Churches of the Charente,' was the most notable. Indeed the love of sketching never left him, and he was one of the most regular members of the A.A. annual excursion for the rest of his life.

"His most serious study of old buildings was, however, made in his native land, where he was deeply interested in ancient Irish architecture, and particularly in the Celtic development of the Romanesque. He made careful surveys of some of the best examples, publishing four monographs upon them, for which works he received two silver medals as an acknowledgment from the institute. These were: Ardfert Cathedral, Co. Kerry, 1870; Templenahoe, Ardfert, Co. Kerry, 1870; Kilmalkedar, Co. Kerry, 1870; Cormac's Chapel, Co. Tipperary, 1874.

"In the early seventies also he commenced to practise with his father, the firm being known as Henry and Arthur Hill. During the greater part of this period his work was strongly influenced by the Gothic revival, early French, and ancient Irish features giving him his chief inspiration. Among the best examples of this period were the fronts of Nos. 31 and 80 Patrick Street, Cork, the former, unfortunately destroyed in the burnings which took place last December, and the latter recently pulled down to make way for a cinema theatre. The Munster and Leinster Bank at Kilmallack, Co. Limerick, is an example showing the influence of some ancient local work in its details. The School of Art, Cork (about 1885) was the last important work carried out under the partnership, and in this I fancy Henry Hill took but small part. In this design Gothic gave way to the ideas of the Renaissance, and I do not think my father, except in some small church work, ever made use of Gothic details again.

"Henry Hill died in 1887, after which my father practised alone for many years, carrying out many of the most important works that were done in the South of Ireland during that period. The Metropole Hotel, considerable additions to the North Infirmary, Victoria Buildings (considerably damaged in the recent burnings), Nos. 13 and 16 Patrick Street (both destroyed in these outbreaks), the 'Cork Examiner' offices and printing works, as well as a great many shops and commercial buildings in Cork and the surrounding country towns, were done by him. He also did a considerable amount of small domestic architecture, of which the most important examples are the Red House, Castletownshend, Co. Cork; Redgarth (his own); and Lacaduv, in the suburbs of Cork.

"In the year 1909 he took me into his office; and the science laboratories at University College, Cork, the Technical School, and the head office of the Munster and Leinster Bank were among the chief works which we jointly executed prior to the outbreak of war.

"My father was always very zealous in the cause of architectural education, and held the post for many years of Lecturer in Architecture at the Queen's (now University) College, Cork.

"In the year 1917 he retired from practice as the result of a very severe paralytic seizure; but after a slow and tedious recovery he returned to his pencil, and in spite of very impaired powers, his chief delight still lay in designing 'Chateaux en Espagne.'

"He died on February 24 last, having finished his last little drawing only five days before."

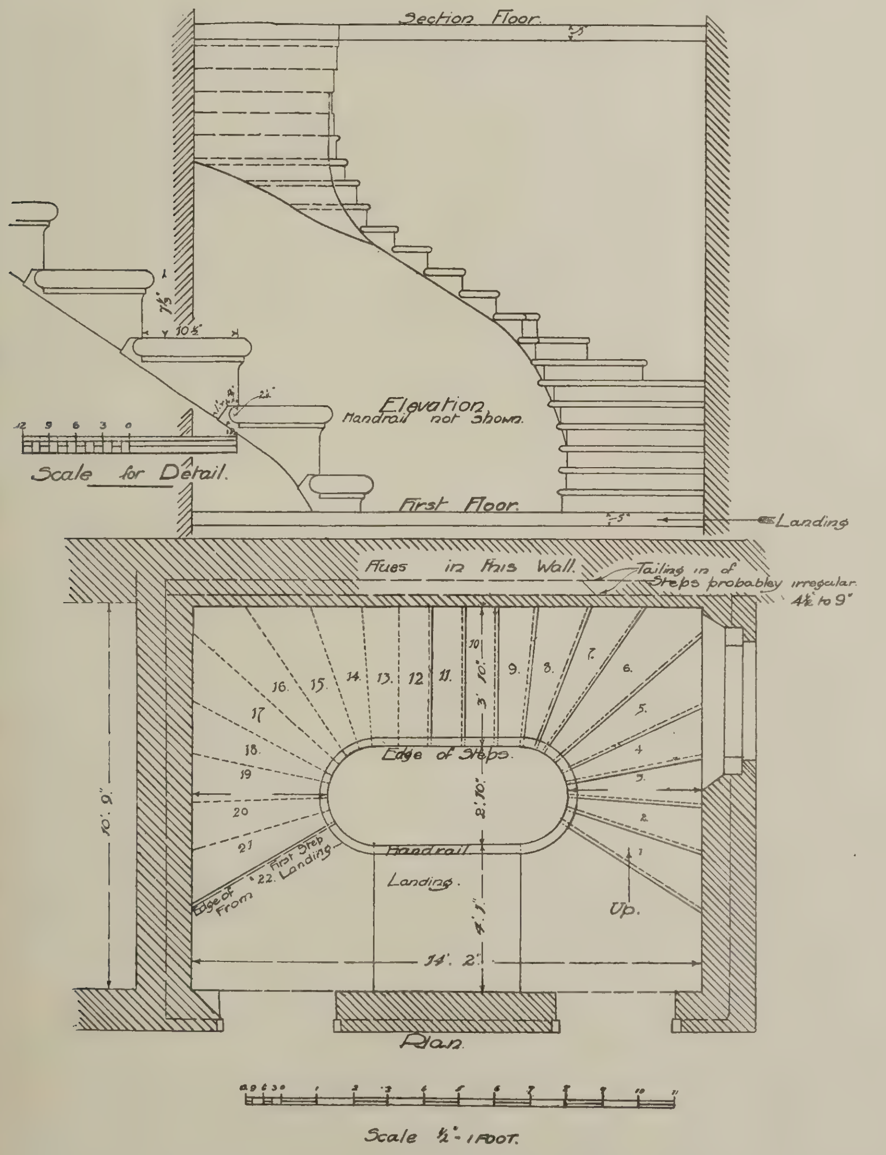
Enquiries Answered

Strength of Spandrel Stone Staircase.

F. R. G. writes: "I enclose a plan and sectional elevation of a stone staircase erected in London probably sixty to eighty years ago. The staircase is constructed of what I believe to be Portland stone, and details are given of the size of the steps and also of the tailing in, which I believe to exist. Twice a day a queue of men, on an average twenty to twenty-five, stand on this staircase and file into the building by means of a cloakroom, which makes their progress slow. What is a safe load on such a staircase, taking into consideration the possible life of the stone? The treads, worn down in the process of time and traffic, have been made up in cement, otherwise the stone work appears to be perfectly sound. If strengthening is thought to be desirable, a suggestion for this would be helpful. The staircase is continuous from the ground to fourth floor, each floor being almost similar, except in the number of risers."

—The strength of a spandrel stone staircase is practically indeterminate. The steps can act as individual cantilevers, in which case their stability would depend upon the strength of the brickwork, and the shape and length of the wall hold. Stone steps can be produced out of less cube of stone if the spandrel soffit is continued through to the end instead of being stopped against a proper square wall seating. Regarded merely as cantilevers tailed to an unknown depth into a wall weakened by flues and probably built in lime mortar, it would be impossible to guarantee that a staircase of this type were capable of carrying anything but the very lightest loads in addition to its own weight. On the other hand the wall holds can be disregarded, or considered as mere end supports, and each step presumed to rest upon the one below through the birdsmouth, the process being continued at the landings through the joints, which are generally dowelled. But this would involve a concentration of shear on the birdsmouths of the bottom flight, which would be too severe for safety. The stone has probably deteriorated but little indoors during seventy years, but as its original strength would have varied by about 100 per cent., according to which bed it was quarried from, it is almost impossible now to ascribe any definite value to it. Assuming that each flight and landing weigh about four tons, the concentrated shear on any birdsmouth of the bottom flight (144 sq. ins.) would be about 250 lbs. per sq. in., which would leave little, if any, margin of safety under dead load alone. Staircases of this type have stood satisfactorily for many years, but as they are almost invariably in situations where they are exposed only to the very lightest loads probably no data exists as to their behaviour under the weight of crowds. One method of strengthening without spoiling too much the grace of the flying sweeps would be to provide over the top landing beams or other adequate supports from which could be suspended, say, four steel rods from flight to flight passing bodily through holes drilled near the outer ends of the treads and landings and screwed with right and left-hand threads into ornamental iron soffit blocks carefully dowelled to the underside of the stone. The junction of the rod and the soffit block could be relieved by light scroll work riveted to a sleeve. The basement flight and possibly the first floor landing might be supported from below in order to avoid too much interference with the open well-hole at the ground floor level.

P. J. W.



SPANDREL STONE STAIRCASE (SEE ANSWER TO F.R.G.)

Consulting Engineers' Fees for Cinema Work.

"Alpha" writes: "Who pays the fees of a consulting engineer employed by an architect for the preparation of drawings and quantities for the steelwork of a large cinema? Please also tell me what is a reasonable fee for such work (£10,000), and whether there is any authorised scale of charges to which I may refer."

—In the absence of any special agreement the fees would naturally be payable by the architect who gave the instructions to the engineer. There is no authorised scale of charges, but 2½ per cent. upon the cost of the steelwork would not be an unreasonable charge, although it is sometimes as low as 1½ per cent., and sometimes an inclusive lump sum.

H. A.

Outside Sun Shutters.

F. W. B. writes: "Can you give me the names and addresses of any firms who make in this country, or import from abroad, outside sun shutters, such as are usually employed on Italian and French houses? They are generally supported on two hinges fixed on to the outside of the window frame—the shutters opening from the centre outwards. Each shutter is fitted with inclined slots—rather like a 'Venetian blind.'"

—Our correspondent evidently refers to the type of shutter almost universally in use on the Continent, and known in France as the "persienne." Neither this nor its less used English equivalent is a patented commodity, and either can be made by any joiner, who would, however, require an architect's detail drawing for his guidance. Perhaps the readiest way of obtaining information on its construction would be to consult some of the many French works on joinery in our technical libraries. One of these, of which we have personal knowledge, is entitled "Menuiserie en Bois," published by E. Bernard and Cie, 53 ter, Quai des Grands-Augustins, Paris.

Improved Methods of Concrete Construction for Housing

A NUMBER of important improvements in the methods of constructing concrete cottages, etc., have been invented by the officers of the London County Council.

The first invention, illustrated by the accompanying drawings, relates to ties for cavity walls, particularly those built of concrete. Fig. 1 represents a sectional side elevation of a cavity wall showing one of the ties in position, and Fig. 3 shows a sectional elevation of one of the ties. The cavity wall shown is formed of outer slabs or blocks O and inner slabs or blocks I, which are built up so as to provide a cavity C between them. The outer slabs in walls of this type are conveniently formed of hard concrete, while the inner slabs are formed of soft concrete.

It shoud be understood that the improved ties may be employed in cavity walls cast *in situ*. In this case the preformed ties are preferably cast into the concrete during the operation of pouring.

The ties T are formed of concrete reinforced with metal reinforcement R, and are provided with dove-tailed ends D, which engage similarly shaped recesses *r* formed in the slabs. These recesses are preferably provided in the meeting edges of the slabs, and extend from the top to approximately half the depth thereof.

The upper surface of the tie is formed with a nose *n* of tetrahedral form; the purpose of which is to deflect towards the outer wall any water or other matter that may fall on it, and to prevent, so far as possible, any moisture which may run down the inner surface of the outer wall from creeping across the tie. The under surface of the tie is formed with a drip edge *d* to cause moisture coming on to the tie to be directed to the centre of the cavity.

The invention may be summarised as follows:

1. For use in cavity walls a preformed tie is constructed of concrete, cement, or similar moulded material, so as to be capable of resisting both tensile and compressive forces, and so shaped as to engage with the shells of the cavity wall in such a manner as to resist both separation and approach of the shells.

2. The combination with a cavity wall built up of slabs, blocks or the like, provided on their inner surfaces with undercut recesses, of ties of concrete, cement or similar moulded material provided with ends adapted to co-act with the undercut recesses, so as to prevent withdrawal of the ties from the slabs, blocks, or the like.

3. The combination with a cavity formed of concrete shells cast *in situ* of ties of concrete, cement, or similar moulded material, provided with ends shaped so as to resist the withdrawal of the ties from the concrete.

4. A wall tie, as referred to in paragraph 1, provided on its upper surface with a nose or the like directed downwards towards the outer wall slab, and provided on its lower surface with a substantially central drip edge.

5. A wall tie of concrete, cement or similarly moulded material, substantially as herein described and illustrated.

6. A cavity wall provided with outer shells composed of concrete, tied together with dovetailed ties of concrete, cement, or similar moulded material substantially as herein described and shown.

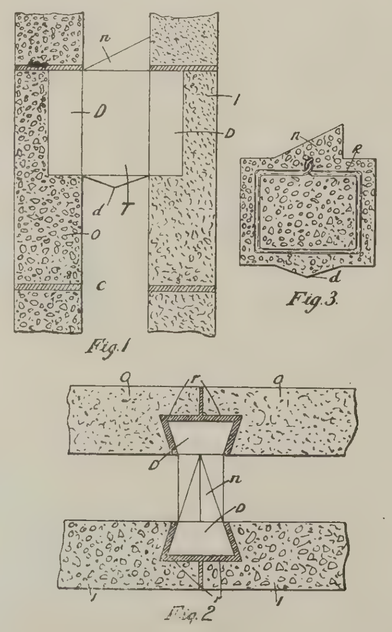
The object of invention No. 2 is to provide a form of cavity wall in which the heat-insulating qualities are maintained, but in which means are also provided for ventilating the floor timbers. The invention consists in a cavity wall constructed in the following manner. Open cavities are provided where floor joists or the like project into the wall, the adjoining principal wall areas above and below the floor being formed with closed cavities.

In the accompanying drawings Fig. 1 represents a section through the upper portion of the cavity wall of a two-storied concrete building, and Fig. 2 a continuation of the section below the portion shown in Fig. 1.

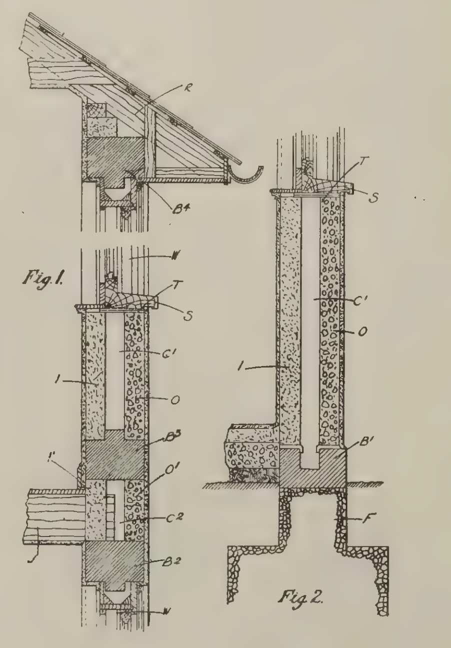
Above the foundations F is placed a closing block B^1, upon which the inner and outer shells I, O of the wall are built. The upper end of the cavity C^1 so formed is closed at the level of the sill S by tiles or plates T, and is similarly closed around the vertical edges of the window opening by the window frame W. A block or a beam B^2, which also functions as a lintel, completely closes the cavity below the level of the floor joists J. Above the block B^2 are placed inner and outer wall shells I^1, O^1, which are provided at intervals with convenient openings, indicated in dotted lines, so that the cavity C^2 between them is ventilated, the air preferably having access also between the floor joists J. This open cavity C^2 is closed by an upper block B^3, and the remainder of the wall in the upper floor is constructed with a close cavity in the manner described for the lower floor. The closing blocks or beam B^4 acts as a support for the timber of the roof R.

The invention may be summarised as follows:

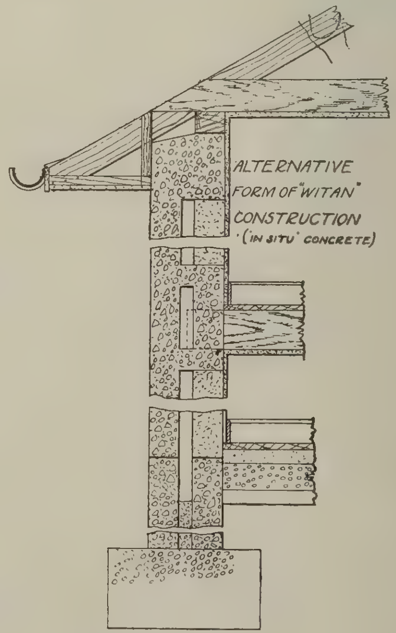
1. A cavity wall in which the joists of a



No. 1.



No. 2.


ALTERNATIVE FORM OF "WITAN" CONSTRUCTION ('IN SITU' CONCRETE)

Alternative form of No. 2.

HOUSING INVENTIONS BY OFFICERS OF THE LONDON COUNTY COUNCIL.

floor projecting into said wall are received in one or more open cavities, the adjoining principal wall areas above and below said floor being formed with closed cavities.

2. A cavity wall in which a principal wall area between successive floors is formed with one or more close cavities, the joists of the said floors being received in open cavities.

3. A cavity wall having closed cavities extending between the separate floors, ceilings, or the like and horizontally extending open cavities at the levels of the said floors, ceilings, or the like adapted to receive the joists thereof.

4. A cavity wall for concrete and like buildings substantially as herein described and shown.

The alternative form of the Witan system has been devised to meet the following special difficulties: (1) Shortage of bricklayers, (2) Shortage of plasterers, (3) Coldness of rooms having open cavity walls. (4) Liability to dry-rot in the floors of rooms having closed cavity walls, and (5) the insanitary condition of walls having cavities in communication with the space between the floor boards of the upper storey and the ceiling of the ground storey.

The effect of rough-casting is obtained by inserting coco-nut fibre matting in the shuttering, and removing the matting after the concrete has hardened sufficiently.

The system consists in a cavity wall constructed in the following manner: Open cavities are provided where floor joists project into the walls, and the adjoining principal wall areas above and below the floor are formed with closed cavities. The through concrete which closes the cavities will also tie the inner and outer leaves of the wall when the metal ties shall have rusted away.

(*To be concluded.*)

Latest List of New Inventions

Latest Patent Applications.

7061. Allan, A. G.—Moulded, cast, etc., tiles. March 4.
6772. Bridgman, V.—Building constructions. March 1.
6960. Dean, J. H.—Wall tie. March 3.
7046. Majendie, J.—Resilient paving blocks, bricks, tiles, floorings, etc. March 3.
6806. Rashleigh, W. S.—Means for drying clay. March 1.

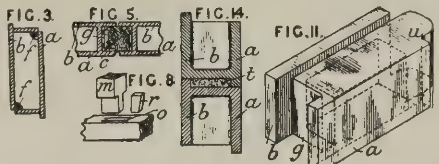
Specifications Published.

159239. Hughes, C. M. C., Brown, A. E., and Hill-Jones, Ltd., T.—Manufacture of blocks, bricks, slabs, tiles, or the like, for paving or building or other purposes.
159256. Bowley, A. M.—Reinforced concrete floors.
159407. Lythe, A., and Ward, E. W.—Scaffolding supports.

Abstract Published.

159319. Building blocks.—Nagy, D. de, 10 West Kensington Mansions, West Kensington, London.

Hollow building-blocks are formed with channelled ends and with the back face *b* protruding above the level of the top and the front face *a* protruding below the bottom to abut against the corresponding edges of the blocks above and below. The block may be formed of plates of wood, concrete, etc., joined together by internal angles *f*, Fig. 3, with the ends *c* set back to form the channels *g*, Fig. 5. In a modification, Fig. 11, the block is moulded to the required shape and one end is channelled while the other is formed with an interlocking projection *u*, which in a further modification may be formed upon the front face instead of upon the end; the space between the top of one block and the bottom of the next may be filled with cement or mortar *t*, Fig. 14. The upright frames *m* of the structure are tenoned into the foundation frames *o* and further secured by wedges *r*.



The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2. from whom readers of this Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner and Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1s. each.

South Wales Institute of Architects

The annual dinner of the South Wales Institute of Architects has been held at Cardiff under the chairmanship of Mr. Ivor P. Jones, A.R.I.B.A., the president. The guest of honour was Mr. J. W. Simpson, P.R.I.B.A., and among those present were Sir Charles Ruthen, F.R.I.B.A., (president of the Society of Architects), and Messrs. F. R. Yerbury (secretary of the Architectural Association), and T. Taliesin Rees, F.R.I.B.A. (president of the Liverpool Architectural Society).

Mr. Ivor Jones, in reviewing the recent work of the South Wales Institute, referred to the great increase of membership, and the genuine awakening of interest in architectural matters in South Wales. He emphasised the fact that, but for the wise guidance of the R.I.B.A., the sympathetic help of the Society of Architects, and the interest of the Architectural Association and the allied societies, the South Wales Institute could not possibly do the work it had done in the past, and hoped to do in the future.

Mr. J. W. Simpson, responding for the R.I.B.A., pointed out that architects needed to keep before them the ideal of "good building" to be attained by a high standard of practise. By seeking election on municipal councils they could do a great deal for the community with their special knowledge, and also for the profession, by showing the public that architects, because of their training, were practical men. He laid stress on the need for a proper understanding between architects and builders, which would result in good work, and which would in its turn win the approval of the general public and so gain for architects generally the credit to which they were entitled.

Sir Charles Ruthen, responding for the Society of Architects, pleaded strongly for registration, pointing out that other professions did not allow anybody to practice until he had proved himself capable and efficient, whereas the so-called architect was often an individual possessing no architectural qualifications, the result being a general lowering of the high standard aimed at by the profession.

Mr. F. R. Yerbury, in responding for the Architectural Association, referred to the educational work of the Association and the South Wales School of Architecture, and predicted a successful career for the latter under its able head, Mr. W. S. Purchon.

Mr. Taliesin Rees, responding for the Allied Societies, spoke of the new resolution of the R.I.B.A. to hold their Council meetings periodically in the provinces, a movement which would give the allied societies more prestige locally, and greatly encourage them in their work.

The toast of the South Wales Master Builders' Employers' Federation was proposed by Mr. H. C. Portsmouth, F.S.Arc., in which he referred to the danger to the architectural profession through the activities of the Office of Works, and the further waste of public money by a Government Department endeavouring to perform the impossible by acting as its own architect and contractor. Mr. E. W. King, president of the Federation, responded.

Councillor E. C. M. Willmott, A.R.I.B.A., proposed the toast of the guests, which was responded to by Dr. Evans Hoyle (director of the Welsh National Museum), and by Mr. R. O. Saunderson (president of the Cardiff Chamber of Commerce).

The presence of the president of the R.I.B.A. and the large number of members and distinguished guests made the occasion an important one for South Wales architects, and there is no doubt that the renewed interest of the members in their Institute will in the future bring good results to South Wales. The whole of the arrangements for the dinner were carried out by Mr. Percy Thomas, O.B.E., A.R.I.B.A.

Weekly Housing Report

Up to March 11 10,445 houses had been completed by private builders under the terms of the Government grant. The subsidy was paid on 430 of these during the week. The amount paid in grants now stands at £2,378,020, and the commitment of the Government under the scheme is now £7,454,119, in respect of 30,726 houses, for which Certificate A has been issued.

New housing schemes submitted to the Ministry of Health during the week ended March 11, numbered ten, bringing the total number of schemes submitted to 11,400. The schemes approved now number 9,011, and comprise about 57,692 acres. Forty-eight lay-out schemes were submitted, and thirty were approved during the week, bringing the total number of lay-out schemes submitted to 7,414, and the number approved to 6,851.

House plans representing 708 houses were submitted, and plans for 933 houses approved. The total number of houses represented in all plans now submitted is 296,163, and in the plans approved 277,656. During the week tenders were submitted for 1,760 houses. Tenders for 321 were approved, bringing the total number of houses in tenders submitted to 191,005 and in tenders approved to 176,273. Contracts have been signed for 152,264 houses.

Trade and Craft

"The Beaver Link."

We have received the first two issues of "The Beaver Link," a new magazine published by the advertising and sales department of the Beaver Board Company, Ltd., of 133-136 High Holborn, W.C.1. It is an extremely interesting publication, full of humour, wit, and serious talk.

The Week's News

Housing at Tiverton.

The R.D.C. have decided to apply for £25,000 for housing.

Chirk Rural Housing.

The R.D.C. have received sanction to a loan of £100,705 for housing.

Thornaby Housing.

The Housing Committee has decided to erect a number of houses by direct labour.

Llangollen Housing.

The U.D.C. have applied for sanction to borrow £20,000 for the housing scheme in progress at Vron.

Easingwold Housing.

The Housing Commissioners have approved of plans for twelve houses on the Easingwold site.

Conversion of a Church.

Christ Church, Peterborough, has been sold to a purchaser who intends to use it as a factory.

Rebuilding at Kingston.

Kingston licensing justices recently approved plans for the rebuilding of the Wheatsheaf Inn.

New London County Hall.

The main portions of the new London County Hall are expected to be completed at the end of next year.

Bromyard Housing.

The U.D.C. have borrowed £9,000 for the erection of houses, and have decided to apply for £500 for the purchase of sites.

Tenterden Housing Scheme.

The T.C. has decided to apply for a loan of £37,000 for the erection of forty houses, of which sixteen have not yet been begun.

Housing at Castletown.

The Sunderland R.D.C. housing scheme for Castletown will be entered upon shortly. One hundred and ninety-six houses are to be erected.

Dartmouth Housing.

The T.C. have accepted a tender for new houses in Higher Street, and have asked the Ministry of Health to sanction them to proceed with the work.

New Public-House for Rotherham.

New premises are to be built for the True Briton Inn, at Rotherham, at an estimated cost of between £10,000 and £12,000.

Staveley Sanitation.

Recommendations have been approved for an extensive sewerage scheme in connection with the housing work now in progress at Staveley.

Enlargement of a Norwich Picture Theatre.

Additions are being made to the Picture House, Haymarket, Norwich, from the designs of Mr. J. Owen Bond, Licentiate R.I.B.A.

Bideford Housing.

The R.D.C. have decided to sign contracts for sixteen houses, and to apply to the Ministry of Health for permission to borrow £16,500.

East Grinstead Housing.

The R.D.C. have instructed the surveyor to prepare fresh plans for the forty houses which comprise the second part of the housing scheme with a view to reducing the cost.

Wellington Garden City.

The U.D.C. have decided to acquire and pull down the London Inn and buildings in furtherance of their housing scheme, which includes the building of a garden city near Church Green and additional houses at Rockwell Green.

Change of Address.

On and after March 21 the address of Messrs. Niven and Wigglesworth, architects, will be No. 7 John Street, Bedford Row, W.C. Telephone No.: Museum 1733.

Criccieth Memorial Hall.

Plans for the proposed Memorial Hall at Criccieth, which is to cost £8,000, have been approved, and the committee has been empowered to proceed with the building.

South Hylton Housing Scheme.

The foundation-stone has been laid in connection with the R.D.C. housing scheme at South Hylton. The lay-out provides for 120 acres, of which sixty are now being built.

New Cinema for Bristol.

A site has been secured at Bristol by the White Ladies Picture House, Ltd., who intend erecting a new picture house from the designs of Messrs. La Trobe and Weston, architects.

Housing at Chatham.

Application is to be made to the Ministry of Health for sanction to the necessary loans for the purchase of sites for the erection of working-class houses at Chalk, Shorne, Higham, and Meopham.

Lutterworth Housing.

In connection with the R.D.C. housing scheme, seventy-one lay-outs have been approved and ninety-nine are in course of preparation, while contracts have been signed for ninety-six houses.

Houghton-le-Spring Housing.

The Housing Commissioner has approved tenders for the erection of 100 houses, and tenders have been provisionally accepted by the R.D.C. for the erection of a further 100.

Saffron Walden Housing.

The Ministry of Health has approved the purchase of sites at Waddington and Little Chesterford, and has sanctioned a loan of £31,527 for the building of cottages at other sites which form part of the local housing scheme.

Housing at Fleet.

The T.C. have decided to invite tenders for twenty-five houses on the King's Road site, and have instructed the architect to prepare plans for the Oakley site. They have also decided to order 150 tons of pipes for the main drainage scheme.

Housing at Houghton.

The R.D.C. have decided to apply to the Ministry for a loan of £2,542 for roads and sewers. Newbottle committee recommend that application be made for a loan of £9,200 for street works and £510 for surface water drainage.

Proposed War Memorial for Horsforth.

The Horsforth U.D.C. has been presented with a site for the erection of a war memorial at a proposed cost of £1,000. The land is at the main entrance to Horsforth Hall Park, and a cenotaph of Horsforth stone is suggested.

Houses for Gateshead.

Good progress has been made at Gateshead with eighty houses, out of the 270 sanctioned for the constitution of the first portion of the Council scheme. The commissioners have been requested to approve of the laying out of the second portion of the site, which provides for an additional 380 houses. Five acres of land have been reserved for the purpose of a recreation centre, and other possible provisions are a church and a hall.

Dundee War Memorial Competition.

The conditions of the proposed competition for the Dundee War Memorial have been drawn up from the conditions suggested by the R.I.B.A. The committee have decided to ask the President of the R.I.B.A. and the President of the Royal Society of British Sculptors to appoint two assessors.

Big Cinema for London.

The Stoll Picture Theatres, Ltd., are about to erect at Baker Street Station what will be the largest cinema in London. The auditorium will be about 130 ft. by 160 ft., and will provide seating accommodation for 5,000 people. Building operations are expected to begin shortly. Messrs. Frank Matcham and Co. are the architects.

Carshalton War Memorial.

The Carshalton War Memorial has been unveiled by Major-General Sir John Longley, K.C.M.G., C.B. The memorial takes the form of a cenotaph surmounted by a tomb from an eighteenth century example, and is excellently placed on a site between Honey-Wood Walk and the Carshalton Pond. It has been executed in Portland stone by Messrs. A. Burslem and Son, of Tunbridge Wells, from the designs and under the supervision of the architects, Messrs. Bourchier, Tatchell, and Galsworthy, FF.R.I.B.A., of London.

The Late Mr. J. M. Dick Peddie.

Mr. John More Dick Peddie, the Scottish architect, has died in Edinburgh. He was a son of the late Mr. John Dick Peddie, R.S.A., a former member of Parliament for the Kilmarnock Burghs, and was born in 1853. Mr. Peddie served for a time as assistant to Sir Gilbert Scott in London, but subsequently joined his father in business in his native city. Among the well-known buildings designed by Mr. Peddie are the Caledonian Station Hotel, the Bank of Scotland, and the North British and Mercantile Insurance Company's offices in Princes Street, Edinburgh. He had also concerned himself with church architecture, while recently he had acted as adviser to various local authorities with regard to housing schemes in Scottish counties.

War Memorial at Macclesfield.

A memorial tablet has been erected by the managers of the Higher Hurdsfield Sunday School, Macclesfield, in memory of the scholars killed in the war. The memorial consists of a frame designed in the Greek Corinthian style, with fluted pilasters on either side supported by a base and surmounted with cornice, frieze, and pediment. The frame is carried out in best quality wainscot oak, oiled and waxed natural colour, and the plate is of polished unlacquered brass with the lettering engraved and filled in with wax. The memorial which is 4 ft. 2 in. high, and 2 ft. 10 in. across the pediment, was designed by Mr. Arthur Clayton, M.S.A., architect, of Duchy Chambers, Clarence Street, Manchester, an old scholar of the school, and executed by Messrs. Swanser and Son, of Great Queen Street, London, W.C.2.

Wednesday, March 30, 1921

Volume LIII. No. 1369

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

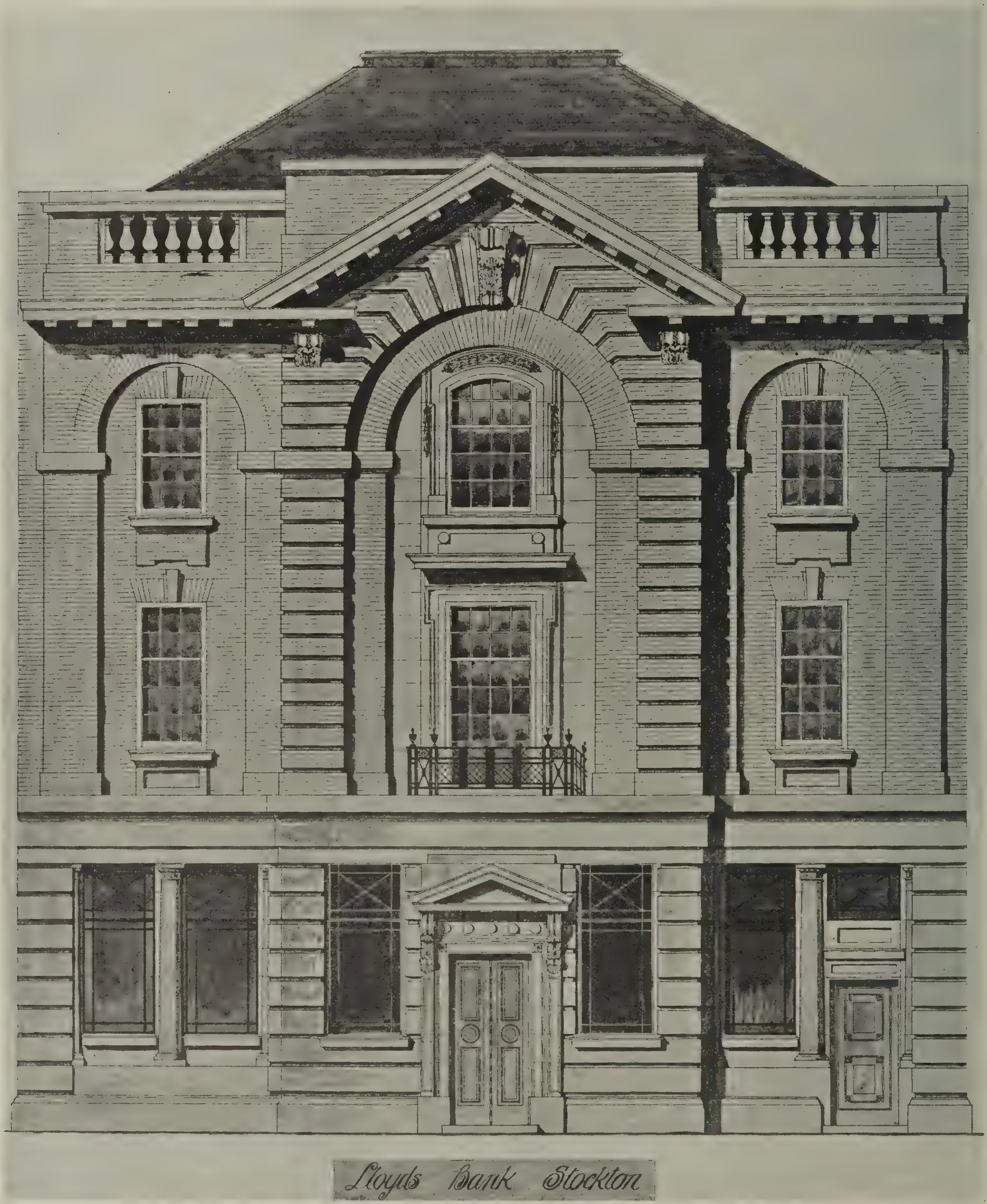
NICHOLAS REVETT (1720-1804).

Nicholas Revett was born at Brandeston Hall, near Framlingham, in Suffolk. Adopting the profession of an artist, he went in 1742 to Rome, where he became acquainted with James Stuart, with whom he went on an expedition to Athens to measure and delineate the monuments of Greek antiquity. Their book, "The Antiquities of Athens," had an instantaneous success, and greatly stimulated the development of the classical style in this country. One of the most important architectural works executed by Revett was the Church of Ayott St. Lawrence, in Hertfordshire. He died in pecuniary difficulties at the advanced age of 84, and was buried at Brandeston.

27-29 Tothill Street, Westminster, S.W.1.

Current Architecture. 68.—Lloyds Bank, Stockton

Sydney D. Kitson, F.R.I.B.A., Architect



Mr. Kitson has erected a number of very dignified branch offices for Lloyds Bank, Ltd., the above elevational drawing showing one of his most recent designs.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, March 30, 1921 Volume LIII. No. 1369

The Instinctive Craving for Beauty

IN adopting, last week, the term "Renaissance" as a convenient label for the new art movement, we were using an expression that was more appropriate than for the moment was quite realised. An unfailing sign of a true Renaissance is its spontaneous annunciation in various parts of the earth; and there seems to have arisen everywhere, simultaneously and independently, a demand for beauty. It may be, however, that the new movement is not a real Renaissance—that the general yearning for beauty is merely the incoming tide of revulsion from the ugliness and the horrors of the war. For, as a writer in the "American Architect" reminds us, "craving for beauty is one of the deepest rooted of human instincts," and strong repression is sure to be followed by a great rebound on the release. Activities so long concentrated on destruction seek eagerly to change their incidence and their objective, to give free play to the long-denied and long half-starved faculty of creativeness.

At all events, the universal craving for beauty is reasserting itself. There is no doubt as to its universality. "We find it," says our American contemporary, "existing in the geranium-pot on the dingy tenement window-sill; in the diamonds of the newly rich; in the silver spurs of the cowboy. If thwarted, it produces restlessness and discontent, the cause of which is often not recognised by the sufferer himself." The geranium may serve to illustrate the innate love of beauty; but the gems and the silver, although they may be beautiful in a way, do not come into the same category. They minister to vanity, and the reason for displaying them, and the feelings aroused in regarding them, may be quite different in kind from a love of natural beauty. It is quite certain, however, that artificial, man-made ugliness is a potent factor in human restlessness and discontent. Ugly and dirty premises have been, it would not be difficult to prove, prime factors in "labour unrest." Such premises insult and degrade the workers in them, and not only take away their self-respect and diminish their pride of workmanship, but also deprive them of most of their joy in life, and reduce their productive energy to the lowest ebb. The old-style ramshackle and untidy workshop was such "a good place to get away from" that "clock-watchers" were thereby greatly increased and multiplied. Without a doubt, an ugly building, a sordid environment, is physically and mentally oppressive and is the foe of efficiency, as enlightened factory owners have been for some few years thoroughly convinced. This is a fact which the promoters of the new art movement will not fail to press home, not because old ugly factories still exist, but for the sake of the cardinal principle elucidated. Redemption from ugliness is a practical issue.

Our American essayist has something further to say that is appropriate to the occasion: "If we recognise clearly the value of beauty we shall achieve beauty with utility. America has just passed through an era extending over a generation or more in which utility was lauded, given almost exclusive attention, in which beauty was often thought to be in conflict with utility, and because of this considered unpractical. This was an era of ugliness in which the suppressed craving for beauty often found grotesque expression—for it could not be suppressed entirely—in decorating essentially ugly things with ornaments. Gradually we awoke to the realisation that this was not beauty—that beauty is expressed in form, in line and proportion, not in superimposed ornament. The lines of greatest strength are lines of beauty; ugly lines are weak lines. Ugliness is the mark of failure, of a half-done job, of haste and ignorance." As the epigrammatic philosopher said, "No generalisation is wholly true—not even this one." It is rather important to recognise that ugliness is quite often the fruit of painstaking elaboration. It is often produced by preference to beauty because the worker's taste is uneducated, because he knows no better. For the same reason it will also, by the average person, be chosen in preference to what to the educated eye is undoubtedly superior.

That is the great difficulty of the situation: that the crowd prefer what is inferior—in form, proportion, colour—in furniture, decoration, architecture. How to combat this vitiated appetite, how to make the community æsthetically sound and healthy, is the great question. Let not the promoters of the new movement deem for a single moment that they have undertaken a light task. They have, in effect, to convert the heathen, and it will take the reformers years to do it. They may even have to hand on the torch to succeeding generations. But it is worth while.

In the process of reform, we shall incidentally get better architecture—not only because of the inherent force of the proverb that "we learn by teaching," but more especially because architects are enthusiasts in this new movement, and are resolved to give clear evidence that they practise what they preach. Not that the architecture of to-day is half as bad as the carpers aver. Discontent with it by architects themselves is another matter. It is symptomatic of a keen desire to do still better. As to the lay critics, it is no doubt because it is much easier to find fault than to praise judicially that they have fallen into the reprehensible habit of heaping scorn and ridicule on our buildings, our statuary, our paintings. It is ungratefully forgotten that but for our architects, sculptors, painters, the natural instinct for beauty, the healthy appreciation of form, colour, proportion, would have lacked exercise, would have dwindled to the lowest level of degradation. Hitherto, however, the artists have taught mainly by example. Now they are entering upon a course of vigorous and direct propagandism, in which precept shall have due place and proportion. Hitherto the artists have shown a disposition to withdraw themselves somewhat ostentatiously too far up towards the frigid summit of Parnassus. Now they are coming down along the green slopes to encourage the commonalty to climb with them a little way up. The artists, throwing away false delicacy, are willing to democratise art.

That, in effect, is what we have to do—to popularise sound knowledge of art principles, to open the eyes of the people to what is comely and what is not. There must be a very earnest endeavour to lay due stress on the firmness of the foundations on which this movement is based. It is not a fad. It goes much deeper than a mere appeal to the eye. It touches the heart and the soul. It is a high moral endeavour to turn to right uses a strong natural instinct which, if perverted, must be harmful, but if guided and disciplined will prove to be a potent moral force; because like breeds like, and ugliness in the environment breeds ugly creatures of it.

Notes and Comments

The Art of the Theatre

MR. H. GRANVILLE BARKER, in taking up his post at the University of Liverpool as public lecturer in the Art of the Theatre, is not at all likely to interpret his functions in a narrow sense. Always noted for his broad and comprehensive view of the subject, he is now in a position to preach what he has practised. Consequently mere elocution will form but one branch of his subject. He will doubtless give earnest attention to the building and the scenery; and it is well that he will find in the principal of the School of Architecture of Liverpool University an accomplished architect, who, being keenly interested in the theatre, will, we imagine, co-operate with him very cordially in matters that require special architectural knowledge. As Mr. Barker doubtless realises very fully, there is great need for reform in the design of theatres; and frequent consultations between the two departments may give Liverpool University the honour of initiating great changes in the Art of the Theatre in its largest sense. It is, at all events, the first university to accord honourable recognition to that art.

Abolish the National Gallery!

The multitudinous suggestions for improving the National Gallery and for a new lay-out for Trafalgar Square, have been capped by Mr. George Bernard Shaw. He says, abolish the Gallery and sell or let Trafalgar Square as a site for business premises. "It seems to me," he said, in an interview with a correspondent of the "Manchester Guardian," "that what is wanted is a comprehensive scheme for realising (I believe that is the commercial expression) the immense commercial value of the National Gallery, the British Museum, the Wallace Collection, and all the other institutions which are now being wasted on unbusinesslike fancies like the fine arts. It has also been apparently overlooked by the Government that the musical services and the attractions to sightseers of Westminster Abbey and St. Paul's could be made a considerable source of revenue by installing the turnstile and the paying-box at the doors of these edifices. The policy of abolishing culture, and recognising it as a pernicious German institution, could, if thoroughly carried out, probably wipe off the war debt. It would also leave us in that unique position among civilised States of which we have always been so proud." Even for Mr. G. B. Shaw, this satire is exceptionally vitriolic; but who shall say that it is undeserved. But Mr. Shaw should really be more careful. Whole armies of muddy-witted dullards will take him quite literally.

Reduction of Wages

Building-trades operatives have adopted a reasonable attitude with respect to wages. At a mass meeting of the London District Council of the National Federation of Building Trades Operatives, Mr. J. Murray and Mr. R. C. Coppock both recommended acceptance of the proposals submitted by the National Joint Wages and Conditions Council. Acceptance, these far-seeing labour leaders explained, implied that after August 1 wages would be regulated by the Board of Trade index figure of the cost of living, whereas the result of a fight on the subject might be a worse reduction. They might have added a word in season about the wastefulness of strikes, and their usual effect of bringing the industries of the country, collectively as well as severally, to the verge of ruin. In this instance, to reject recommendations based on the faithful and just conclusions of the National Joint Wages and Conditions Board would be to qualify for a certificate in lunacy—a calamity that should be easily averted when the question of the reduction of wages—accurately described by Mr. Coppock as a vital question—goes to the ballot, as it ultimately will.

Builders in the Coal-pits

Where are all the building operatives? Light was thrown on the shortage of labour in our industry by a speaker at the annual meeting of the Mansfield Branch of the National Federation of Building Trades Employers. Many skilled building operatives, it was stated, left the trade during the war and went into coal-pits in the district. Some of them were fully employed there, while many others were putting in four shifts in the pits and filling in the rest of the week building. This is a distinctly unwholesome state of things, and we should have thought that no decent trade union would allow it. It is to be assumed that these men belong to both unions. If this is so, is it with the knowledge and authority of the unions concerned?

Light Castings May Cost Less

The report of the Sectional Committee appointed under the Profiteering Acts to investigate the light castings industry is not pleasant reading. It states that one trade combination controls ninety-five per cent. of the British output, while another represents almost the whole distributing trade, while the moral deduced by the Committee is that "The powers of an association which wields such monopolistic control over an industry are so open to abuse as to make it a menace to the community, and we [the Sectional Committee] urge that such combinations should be brought under the surveillance of some department of State." It would be very interesting to know exactly to what extent the exorbitant prices of "light castings" have inflated the costs of housing. That the organised traders in these wares are entirely responsible for these high prices cannot be easily believed. It is to be feared that the charge against them of profiteering has been too often lightly made, without duly taking into account the enormous increases in the costs of raw material and of labour. Between 1914 and 1920, the accusers should be reminded, the price of pig-iron, for instance, had gone up 336 per cent.; that of coke, 243 per cent.; while the wages for skilled and for unskilled labour increased respectively by 227 and 376 per cent. It is declared, indeed, that the minimum prices fixed since the Armistice by the Light Castings Association "show a profit which cannot be considered unreasonable, while the discounts allowed by the association afford a fair and reasonable margin to the distributor." Nevertheless, the Committee's remarks on the untoward tendencies of monopoly "give furiously to think."

Sir John Soane's Old Law Courts at Westminster

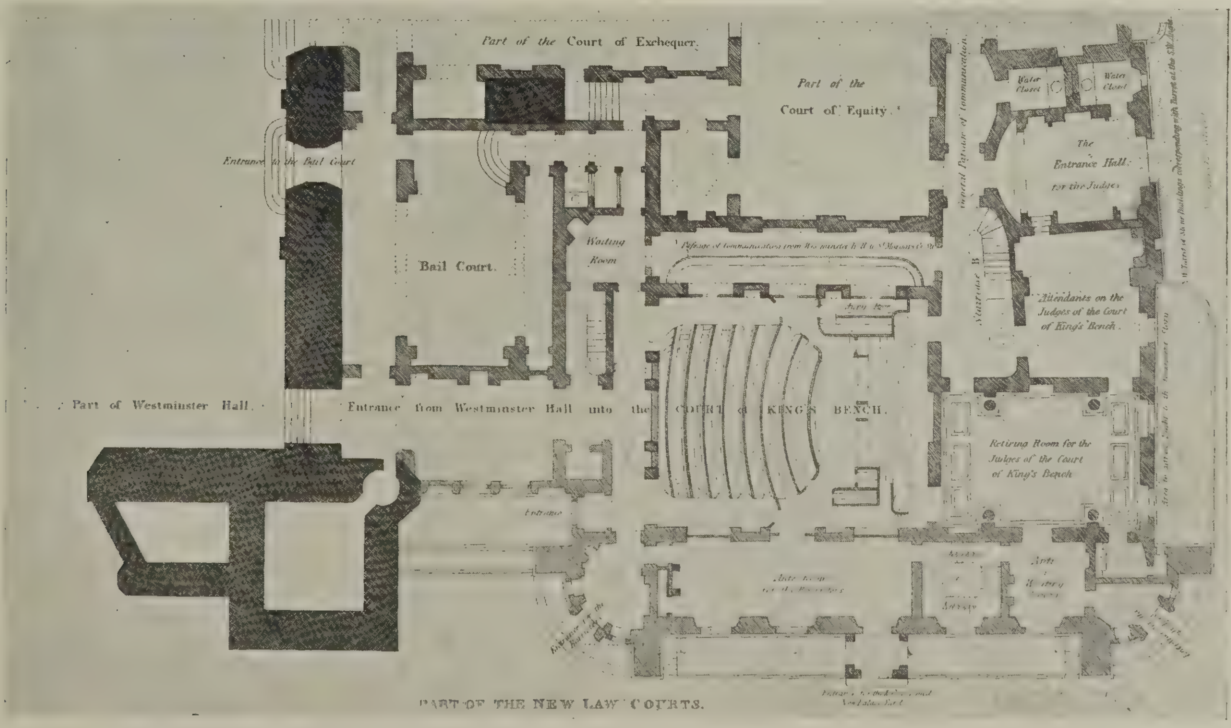
By ARTHUR T. BOLTON, F.S.A., F.R.I.B.A., Curator of the Soane Museum

THE life of Sir John Soane was full of those ups and downs which diversify the architect's career. In 1814, on the occasion of the famous "Emperors' visit," Soane had been received by the Autocrat of Russia with the most flattering distinction. Had George III. not been incapacitated, Soane would doubtless have been knighted then, instead of having to wait until the death of his selfish successor, to whom Nash was a more agreeable associate. "Is it true," writes a man of position in the North of England, one of those with whom Soane had travelled in Italy, "that Nash has become the Prince's right-hand man?" and he then proceeds to remind Soane of an early incident, in which they had all three been concerned.

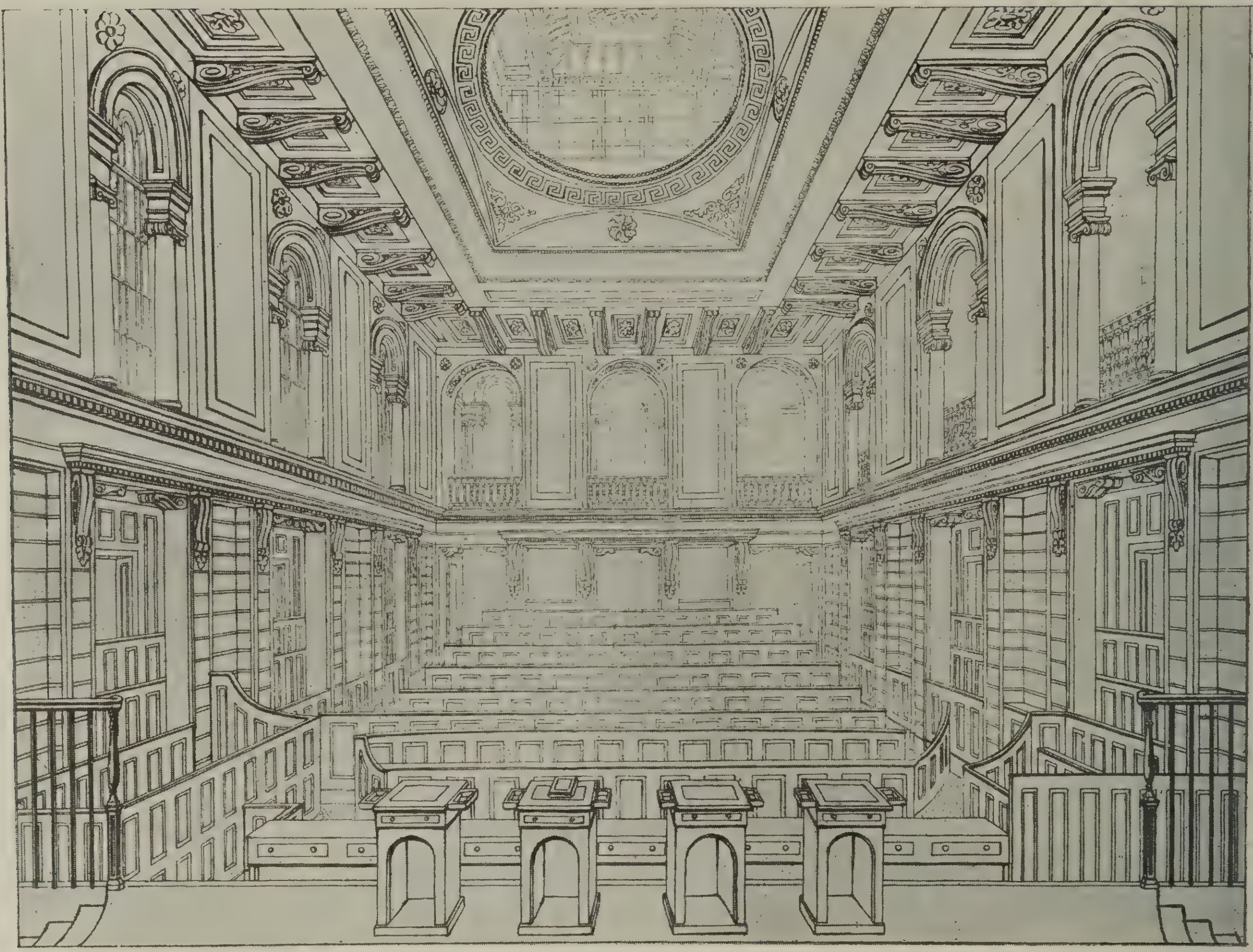
This brief success of Soane's was followed at the end of the following year, November, 1815, by the disaster of his wife's death, and the increasing affection of his own eyesight, which made an operation for cataract necessary in 1824. His eldest son, after some years of ill-health, had died in 1823, and on the top of these trials came the concentrated attack upon his most important work then in hand, the new Law Courts on the western side of Westminster Hall. It is too long a story for these pages, but, leaving out all side issues, the facts are that the unfortunate architect had by the most skilful planning schemed no fewer than seven courts in the spaces between the great buttresses of Westminster Hall. He had carried out his elevation in an Anglo-Palladian style that harmonised with the earlier block begun by William Kent, and the design as preserved in the model never fails to interest architect visitors to the Model Room of the Soane Museum.

The truth is that the growing school of Gothic revivalists wanted to make it a test case, and their claim that Soane ought necessarily to have made his design of the same style as the north front of the Hall is not one which would be admitted to-day. In the House of Commons members vied with each other in abuse of Soane, articles were written, and the storm was only appeased by the appointment of a Parliamentary Committee in May, 1824, which mutilated Soane's plan by cutting away the already built front portion of the design. A mongrel façade was finally evolved for which Soane disclaimed all responsibility. That, however, was not the end for the unlucky architect, because the Judges, Bar, and public who used the Courts blamed him for defects of plan and accommodation resulting from these very alterations. There can be little doubt that the architect was right, but he seems to us to have made two mistakes—first in offering to mediævalise his design himself, and, secondly, in writing a confused and personal book, in which he endeavoured to counter attack his adversaries. Remembering that Soane, born in 1753, was now over seventy years of age, and that his life had been one of the most exacting labour and continual excitement, the energy and ability with which he confronted such dangers and difficulties as beset him must win for him a large share of our sympathies.

As regards the Courts themselves, the plan and the interior of the Court of King's Bench illustrated will give an idea of their original character. They can be understood, by those who cannot recall the old Courts, by a reference to the interior of the "Hogarth Room" at the Soane, which is of the same date; the ceiling of this Picture Room being a miniature, or model, of a similar lanterned roof. The ghost of Sir John Soane must have chuckled when the Judges, Bar, and public, evicted from his Courts, at last realised how convenient and comfortable they had really been, and must have absolutely laughed when the exiles once more revived their old abuse, this time at the expense of the then lately-deceased architect of the New Palace of Justice in the Strand.


Part of the Court of Exchequer.
Part of the Court of Equity.
Water Closet
Water Closet
The Entrance Hall for the Judges
Entrance to the Bail Court
Bail Court.
Waiting Room
Staircase B
General Passage of Communication
Attendants on the Judges of the Court of King's Bench.
Part of Westminster Hall.
Entrance from Westminster Hall into the COURT of KING'S BENCH.
Retiring Room for the Judges of the Court of King's Bench
Entrance
PART OF THE NEW LAW COURTS.

THE OLD LAW COURTS, WESTMINSTER: PLAN OF THE COURT OF KING'S BENCH. SIR JOHN SOANE, ARCHITECT.



INTERIOR OF THE OLD COURT OF KING'S BENCH, WESTMINSTER. SIR JOHN SOANE, ARCHITECT.

" Art in Common Life."

SIR ASTON WEBB, K.C.V.O., C.B., P.R.A., in the course of an article in " The Times," observes that the company of artists to which that newspaper has referred as having formed a sketch plan for " guarding and extending the Domain of Beauty," have set themselves a formidable task, but one to which all must wish success. They have, he points out, had many worthy and highly skilled predecessors who have attempted the same thing and left much beautiful work behind, but there has been no continuity, and if the cause of this can be detected and a certain continuity secured in the future something will have been done that is worth while.

After referring to the pioneer efforts of Alfred Stevens, William Morris, Burne Jones, William de Morgan, and Philip Webb, and to the valuable work at present being carried out by the London Society, he says: " The Office of Works is doing excellent work in taking over the care and control of many ancient buildings throughout the country, but they are mistaking their vocation by taking over large building schemes to the serious detriment of the already much-tried building industry, and they cannot be looked to for an imaginative programme for the beautification of London. One difficulty in any general improvement of London is the inherent individuality of most Londoners. They fear, and fear rightly, any attempt to turn London into a second-rate Paris. . . .

" What body of opinion really cares now as to what is to replace Devonshire House? It may be the greatest ornament or the greatest eyesore to Piccadilly, but it will soon be too late to care. How many people trouble themselves as to what sort of university London is going to have? Although there will probably be some disappointment when it is found that large sums of money are spent on buildings hidden away behind the British Museum. Ask a graduate of Oxford or Cambridge what the memories of beautiful surroundings have done for him. Surely the greatest ornament to a capital after its Houses of Parliament and Cathedral should be its university—and, like them, seen from afar. . . .

" The time has arrived to consider whether anything practical can be done to bring beauty into our everyday life. Many great artists have tried, but much remains to be done before even a slight impression can be made on a vast place like London. Is there anything practical that can be done? Perhaps the American system of a " Commission " might form a basis for discussion, that is to say, a Committee or Commission formed of men of public spirit and acknowledged authority willing to work without fee, but with some State recognition and without State control. . . .

" With some such Committee or Commission in existence some at least of the mistakes from which London will ever suffer would surely not have been made. It is not even yet too late to make London not only the best paved and drained capital in Europe, but also the most beautiful." . . .

If the nameless Academicians who started the discussion are in earnest in the matter and were to ask the Royal Academy to call a meeting of representative men interested in the subject to discuss whether anything can be done, there can be little doubt that the Academy would be willing to accede to such a request.

Architectural Causerie

"Examine and Compare"

CONCERNING that art-for-all campaign, or whatsoever it is going to be named. In what relationship does the Building Trades or any other exhibition stand towards it? The answer depends, of course, on the way in which such conventions are handled. They are potent for publicity, which may be turned to excellent account. In various ways the Building Exhibition does a vast amount of good. It brings together many exemplary objects, some of them, let it be confessed, unintentionally exemplifying things to be avoided. It brings together old acquaintances, some of them (pray pardon the repetition of a phrase or two), let it be confessed, persons one would rather avoid. It stimulates emulation and invention. It affords priceless opportunities for examination and comparison. By degrees it elevates the standards of taste, design, manufacture, workmanship. Mainly it deals in the elements from which buildings are made, furbished, and furnished. If these elements are right, the architect can be trusted to combine them sagaciously into an harmonious composition. To get this result, he must needs inspect the elements, the units rather, very closely. At the exhibition he gets an unsurpassed opportunity of making his choice.

A "Stage Wait"

Why does Lincoln wait?—not the Lincoln that last week reeked of horse-racing, but Abraham Lincoln. Months ago he was perched up on a makeshift pedestal in Parliament Square to endure the ordeal of an "inauguration ceremony." Then he was taken down that a solid stone pediment might be built, and nothing has been since seen of him in public; the excuse being the difficulty of procuring sufficiently large blocks of stone. A street urchin, steadfastly regarding the dismal and forlorn hoarding, thought it an occasion for a dirge-like song. He piped shrilly, "A-be, A-be, what are they waiting for now?" He was not more irreverent than the architectural students who recently had the temerity to substitute "Reggie" for the original invocation.

Art an Architectural Issue

"Art in Common Life," as a contributor to our leading columns has conclusively shown, is largely an architectural issue. It was not strange, therefore, to find that in "The Times" of March 22 two architects occupied all the space that was given up to this very important subject. Sir Aston Webb stated the case with great force and lucidity, and Mr. Arthur Keen followed with a letter teeming with valuable comment and suggestion. One of his passages, however, fills us with misgivings. He writes: "Our artists must set themselves in the first place to the attainment of a common standard and a general expression." One has an inkling of what Mr. Keen means, but it is certain that the words "a common standard and a general expression" will be generally misunderstood as favouring narrowness and monotony. It is certain that Mr. Keen meant nothing of the sort; but it is a pity that he should give occasion to the enemy to blaspheme.

A Giant Cinema for London

It is rather extraordinary that Central London should have no big cinema theatre, designed as such. The Stoll Picture Theatre in Kingsway is a huge building, but, so far as seating arrangements are concerned, it is still an opera house. Sir Oswald Stoll has realised London's deficiency in big cinemas, and we learn with interest that he proposes to erect very shortly, on a site near Baker Street Station, a new cinema theatre to hold 5,000 persons. This will put London on even terms with New York, whose "Capitol" cinema, accommodating the same number of persons, has hitherto held pride of place as the "largest cinema in the world." The new building will have only two ranges of seats—stalls and circle—and in connection with it there will be a restaurant, tea rooms, and lounges. In these days of specialisation it is almost inevitable that a building of this kind should be entrusted to a "theatre architect." If only it could have been thrown open to competition, what a fine opportunity the modern academic school of practitioners would have had of showing their quality. We understand that Messrs. Frank Matcham and Co., who have been appointed to the work, are also engaged on designs for the internal reconstruction of Drury Lane.

Rebuilding in the West End

The business thoroughfares of the West End are undergoing a rapid metamorphosis. At the present moment it is in Regent Street that activity is most apparent. Here at least six portions of Nash's stucco work are disappearing before the onslaught of the housebreaker. On the Dickins and Jones job, demolition and re-building operations go on side by side, continuously day and night, in order to get the fine new Portland stone structure erected with the least possible delay. About a third of the new building is already finished. In other parts of Regent Street the pickaxe will soon be at work. The big block of buildings occupied by Swan and Edgar will probably be the next to go. On this site we are to have a new building designed by Mr. J. J. Joass, F.R.I.B.A., who, it will be recalled, was responsible, jointly with the late Mr. John Belcher, for the huge Whiteley Store building in Bayswater.

A Remarkable Sculpture Group

Last week we were whirled off in a taxi to a studio in the remote parts of Chelsea to see what had been enthusiastically described to us as the "finest sculpture group in London." The exact locality of the studio and the identity of the sculptor shall not be revealed. Let it be said, however, that the artist is well known to London architects, many of whose buildings attest the quality of his chisel. The sculpture group proved to be one of the most unconventional and daringly imaginative things that we have ever seen. By this time it doubtless reposes in the vaults of Burlington House. Whether or not it will be elevated to the ground floor is a question—the Selection Committee is such a conservative body. If it should pass their scrutiny in safety, then we may promise visitors to this year's Academy a rare surprise in æsthetics.

Tests on Building Stones

The meeting of the Institute which is to be held on April 18, promises to be one of rather unusual interest. In conjunction with a paper by Mr. Alan E. Munby on "Research in Building Materials," a number of lantern slides will be shown of building stones which the Geological Survey and the R.I.B.A. Science Committee have had exposed in London for a period of ten years. The slides will show the condition of the stones at the beginning and at the end of this period. The data obtained should be invaluable. Our knowledge of the weathering properties of materials is by no means so exact as it might be, witness the condition of the stonework of the Houses of Parliament—the more deplorable in that the stone used was selected by a committee of experts after exhaustive enquiry.

East Ham Hospital Competition

THE awards of the assessor (Mr. George Hubbard, F.S.A., F.R.I.B.A.) in the above competition were announced in our last issue. This week we illustrate the first premiated design by Messrs. F. E. Mennie, A.R.I.B.A., and C. B. Smith, architects.

The instructions to competitors were principally as follows:—

Accommodation.

For men, one surgical ward and one medical ward, each containing ten beds. For women, one surgical ward and one medical ward, each containing ten beds. For children, one surgical ward and one medical ward, each containing ten beds. Each ward to have bath and lavatory accommodation, etc. Operating theatre, X-ray room, mortuary, out-patients' department, including dispensary; suite of rooms for matron, suite of rooms for resident surgeon, suite of rooms for nurses, board room, etc., for secretary, accommodation for domestic staff, kitchen, scullery, etc.

Provision should be made for future extensions, arranged so as to involve a minimum amount of disturbance to the proposed present scheme.

Shrewsbury House.

For financial reasons it is considered advisable to retain Shrewsbury House for the accommodation of the matron, the resident surgeon, nurses, and board room, etc. The cost of such remodelling must be included in the total cost of £40,000. It is left to the discretion of competitors either to retain Shrewsbury House or to clear the site, but it must be clearly understood that the total cost of £40,000 is to be the limit of expenditure, and this condition as to cost will be strictly adhered to.

Outbuildings.

These may be demolished or retained and converted into a mortuary or otherwise incorporated by the competitors at their discretion.

The promotors desire the principal façade to be dignified and well balanced, with a minimum expenditure upon ornamentation. Concrete construction will not be objected to. Hard wood floors are required throughout the wards of the hospital. Central heating and electric light should be provided.

Following are extracts from the report accompanying the winning design:

The site for this hospital having been visited, and very careful consideration given to its possibilities and to the suggestions for retaining and adapting Shrewsbury House, it is submitted that the disadvantages of trying to retain this old and unsuitable house as an integral part of the new hospital hampers and militates against the effective and workable planning of the hospital. Accordingly, in the design submitted herewith, this old house has been altogether discarded and the hospital, including the administration block, planned upon thoroughly modern and up-to-date lines, whilst at the same time giving exactly all the accommodation asked for in the conditions.

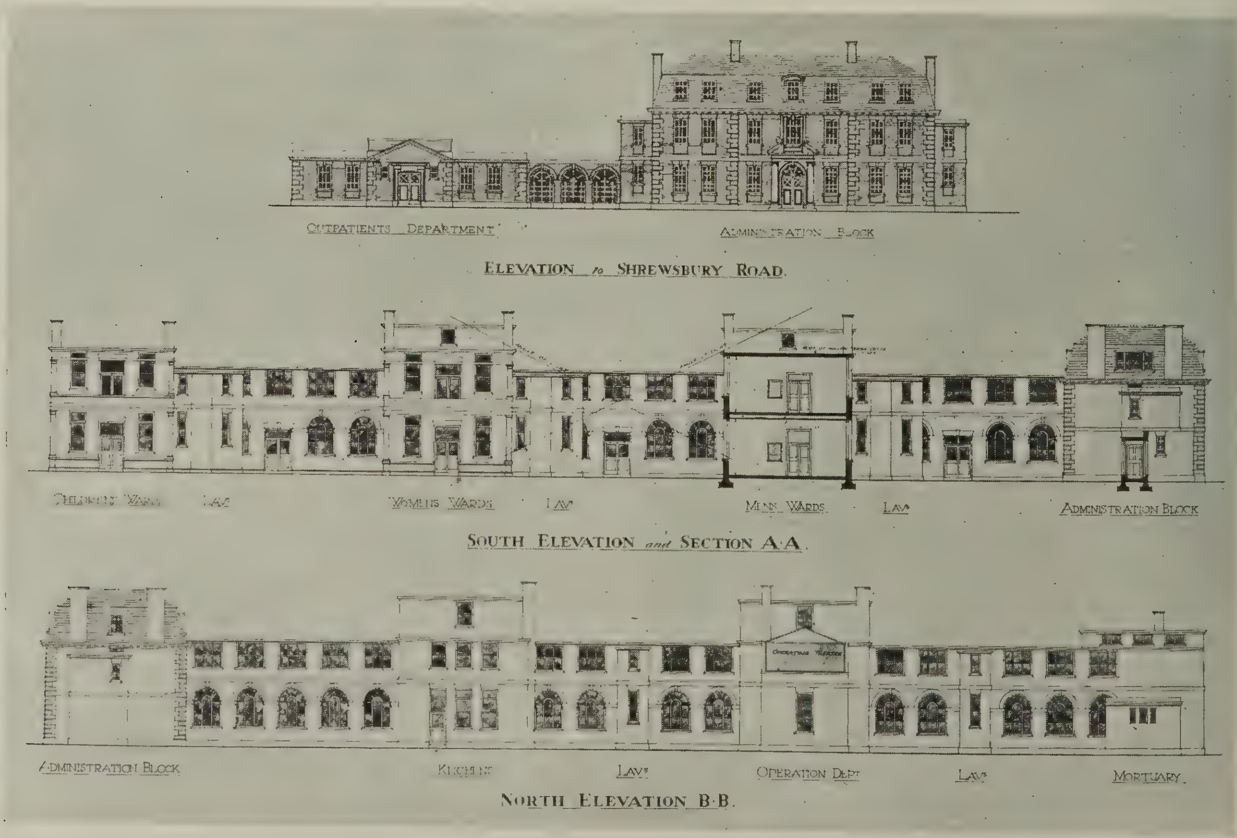
The combined corridor and pavilion type of plan has been adopted, with the administration block facing Shrewsbury Road, giving direct access to the main corridor of the hospital, off the southern side of which the wards are disposed in three two-storey blocks, whilst the out-patients' department is conveniently situated on the Shrewsbury Road front planned as a separate one-storey building, thereby allowing free passage of sunlight and air across same to the wards.

The wards are placed with their long axis north and south, with the ward w.c. blocks projecting at the northern ends in order that the wards may be left clear of all obstructions on the eastern, southern, and western sides, thus securing the maximum amount of sunlight to the wards, and also allowing of the provision of spacious sun balconies at the southern ends, fitted with movable wind screens.

The ward windows, which are flush with the inside faces of the walls, are of the "Astral" type, with hopper ventilators at the top extending to the ceilings, the glass in these ventilators being obscured in order that sunlight may be diffused, and so that blinds can be placed at the transome levels.

The floors between the upper and lower wards are constructed with hollow terracotta tiles between the main beams, so as to form flat ceilings throughout and provide spaces for flue pipes and ventilators to be run to the brick flues in the outer walls. The walls and ceilings are thereby kept clear of all projections and recesses and finished with hard plaster enamelled to suitable tints, and rounded angles are formed at all junctions.

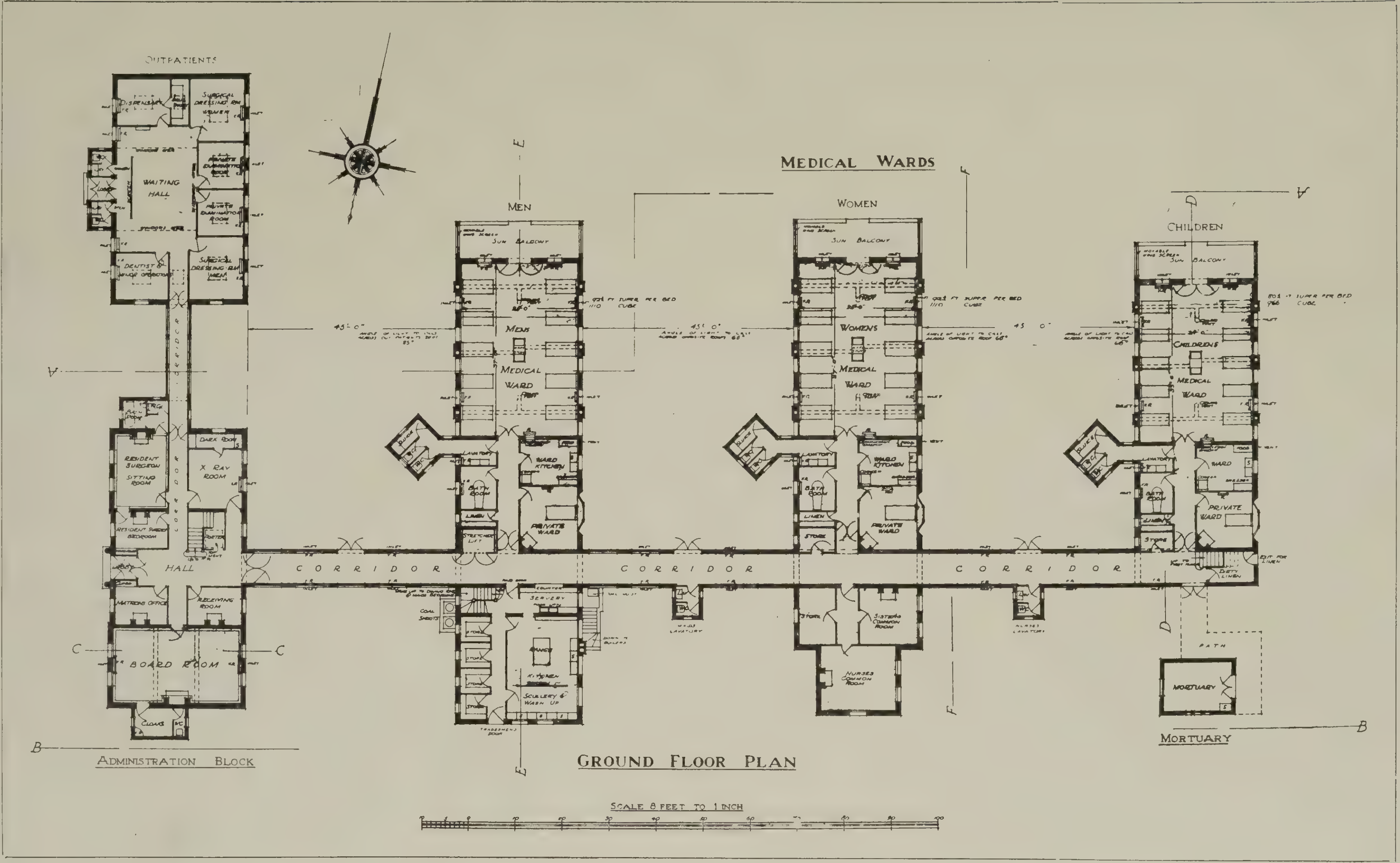
The wards are warmed by central dual ward stoves, the products of combustion being carried through descending flues in



EAST HAM HOSPITAL COMPETITION: ELEVATIONS OF WINNING DESIGN.
F. E. MENNIE, A R.I.B.A. AND C. B. SMITH, ARCHITECTS.

Current Architecture. 69.—East Ham Hospital Competition: Ground-floor Plan of Winning Design.

F. E. Mennie, A.R.I.B.A., and C. B. Smith, Architects.



This design has been awarded first place in open competition (Mr. George Hubbard, F.S.A., F.R.I.B.A., Assessor). The combined corridor and pavilion type of plan has been adopted, with the administration block conveniently adjacent. The wards, having their long axis north and south, are disposed in three two-storey blocks. A full description of the design is given in the article which begins on the opposite page.

the hollow floors and connected to the brick flues on the exterior of the building, thus allowing clear and uninterrupted view over the wards from the duty rooms. Ventilating radiators are also provided near windows and doorways.

Each ward of ten beds has been provided with a duty room, fitted with gas cooker, sink, food cupboard, and dresser for use as a ward kitchen and an observation window to the main ward; a lavatory with a projecting w.c. block disconnected by a short cross ventilated corridor; a ward linen room; a private ward having a large window on the south-western side, arranged with canted sides to catch the maximum amount of light. The private wards are provided with open fireplaces and radiators.

As recent experience shows that surgical cases have the greatest need for the maximum amount of sunlight and air, the wards for these cases have been placed on the first floor, with the operating room in a central position on the north side of the corridor. A stretcher lift is provided in a convenient position near the main entrance. The medical wards are placed on the ground floor.

In each case the children's wards are situated at the far end of the building to avoid disturbance of the other patients through noise, as far as possible.

Attention might here be drawn to the fact that staircases have been provided at each end of the main corridors to obviate having unduly to traverse same to reach any part of the hospital.

Separate w.c.'s and lavatories are provided off the ward corridors on each floor for the staff and for maids.

The kitchen department is placed on the ground floor at the northern side of the main corridor opposite the men's wards, this being the most suitable position for service to all parts of the building. A spacious servery, with two dinner lifts, opens on to the main corridor on each of the ward floors.

Above the kitchens are the sisters' and nurses' dining-room, the cooks' sitting-room and bedroom, and above these, on the second floor, the maids' bedrooms, with bathroom and w.c.'s. By this arrangement the domestic and kitchen staff rooms are grouped together, and have their own private staircase, thus obviating the necessity for passing through the hospital.

Each bedroom is provided with a fireplace and fitted with a lavatory basin supplied with hot and cold water. The sisters' bedrooms are placed on the second floor over the women's ward block, again with their own bathroom and w.c. Each of these bedrooms again is provided with a fireplace and fitted with a lavatory basin supplied with hot and cold water.

The sisters' and nurses' common rooms are centrally placed on the northern side of the ground floor corridor below the operating theatre.

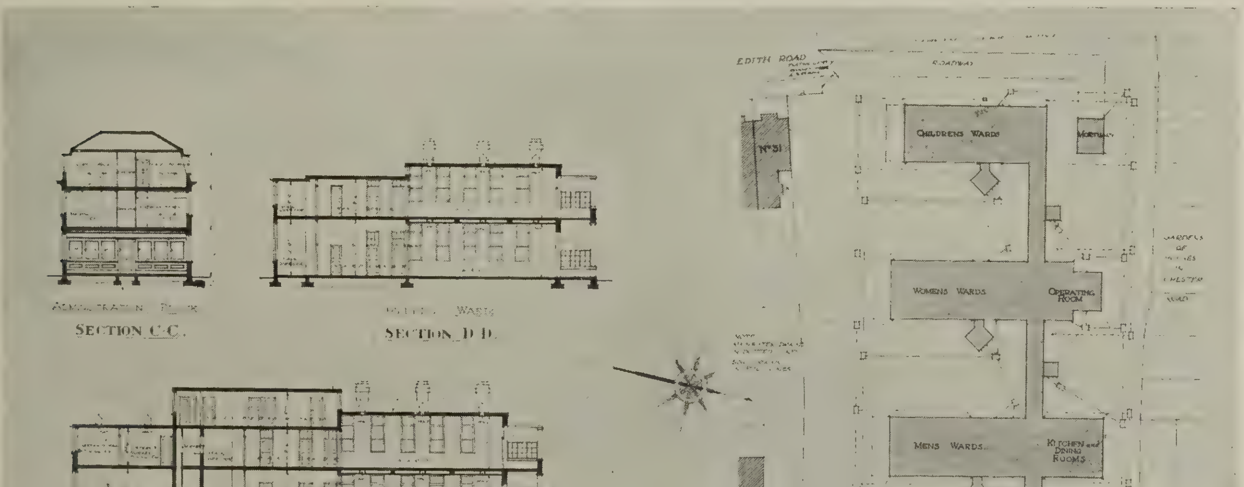
The operating theatre is placed in a central position on the north side of the main corridor on the surgical ward floor, and disconnected therefrom by a short top-lighted and ventilated corridor. The theatre is provided with large north and top lights, and has in conjunction with it: The anæsthetic and instrument room, with doorways thereto from the corridor and the operating room; a sterilising room opening directly from the operating room; a change room for surgeons. These three rooms are arranged so that they can each be approached without entering the operating theatre.

The administration block contains: on the ground floor, an entrance hall, giving direct access to the main corridor of the hospital and to the corridor leading to the out-patients' department; the board room, with cloak room, lavatory and w.c. attached; the matron's office, conveniently situated for access to and supervision of the whole building; the receiving room for patients suitably placed for the matron, house surgeon, X-ray department, and near the main entrance and hospital corridor; the X-ray room, with dark room adjoining, equally accessible for out or in-patients, and the receiving room; the house surgeon's sitting-room and bedroom, with private bathroom, lavatory, and w.c. attached; a porter's office in the entrance hall, from which supervision of all persons passing in or out of the building can be exercised; the main staircase in the entrance hall is designed for access both to the surgical ward floor and the upper floors of the administration block.

The first floor contains: The matron's sitting-room and two bedrooms, also private bathroom, lavatory, and w.c. attached, within easy reach of the main staircase and the ward corridors. Eight bedrooms for nurses, each fitted with lavatory basin (h. and c.) and provided with open fireplaces and a bathroom and w.c. in the wing building.

The second floor contains: Ten bedrooms for nurses fitted up as above described and a second bathroom and w.c.

The out-patients' department faces Shrewsbury Road, and has a separate entrance for patients, with lavatory and w.c. accommodation for both sexes. This department is planned with a central



EAST HAM HOSPITAL COMPETITION: ELEVATION, SECTIONS, AND BLOCK PLAN OF WINNING DESIGN.

F. E. MENNIE, A.R.I.B.A., AND C. B. SMITH, ARCHITECTS.

waiting hall, round which the various examination rooms and surgical dressing rooms enumerated in the instructions have been grouped, and it is connected to the administration block by a corridor for the convenience of the medical and nursing staff and for out-patients visiting the X-ray room.

Additional light and ventilation are provided to the waiting hall by clerestory windows round three sides, and to the examination and dressing rooms, etc., by means of top-lights.

A detached mortuary building is provided at the north-west corner of the site approached by a separate roadway from Edith Road.

Materials, etc.

The construction of the buildings will be as follows: Walls, brickwork; floors, concrete, the upper floors being reinforced. It is proposed to finish the floors as follows: Entrance loppy and hall and corridor to administration block, mosaic; operating theatre and rooms connected therewith, corridors generally, ward bathrooms, lavatories and w.c.'s, out-patients' lavatories, sun balconies, all bathrooms and lavatories, granolithic; wards and board rooms, hardwood fixed on splayed fillets bedded in concrete; other rooms, deal, fixed to splayed fillets bedded in concrete.

Roofs of all buildings, except administration block, hollow terra-cotta tiles, finished externally with asphalte. Administration block, Broseley tiles.

Electric Light.—It is proposed to light the building throughout by electricity, and to provide wall plugs near each bed for the examination of patients. Power plugs would also be fixed in convenient positions for the attachment of vacuum cleaners or other appliances.

Central heating is provided throughout the building by steam radiators from the boiler house below the kitchens, where separate coal stores for house coal and boiler coal are provided, and a coal hoist to the ward floors. Dual central stoves are provided in the wards, and open fireplaces in all sitting-rooms and bedrooms.

Drainage.—Separate systems are provided for rainwater and soil drainage; the pipes are kept wholly outside the buildings, collected into manholes, and connected to the public sewers in Shrewsbury Road.

The cubical contents of the buildings are as follows:

Administration Block	54,988
Men's Ward Block	87,703
Women's Ward Block	79,023
Children's Ward Block	43,864
Out-Patients' Department	21,300
All corridors	32,362
Lavatories off corridors	2,090
Mortuary	2,544
Total cubic feet	323,874

Cost at 2s. 6d. per cubic foot (which from previous experience in buildings of this class is the least amount at which they can be erected at the present time)	£40,484 0 0
Allowance for demolition of Shrewsbury House and use of old materials and for ballast, etc., foundation site	1,000 0 0
Net cost of hospital	£39,484 0 0

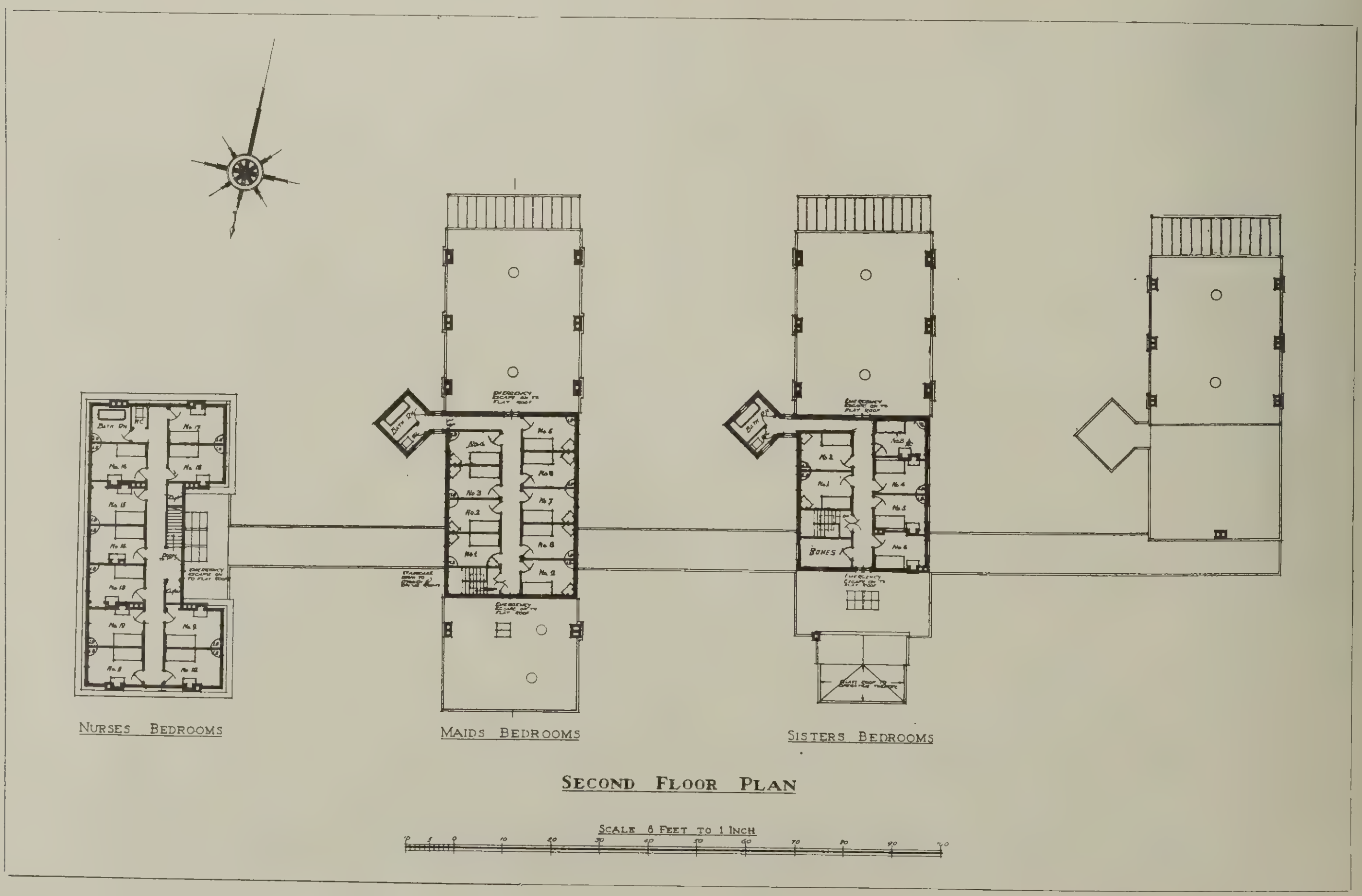
A few words of critical comment may be added to the foregoing technical description. The competition afforded good opportunities for an original treatment, the site already being occupied by a house, which competitors were free to demolish or retain at their discretion. Messrs. Mennie and Smith, the successful architects, elected to destroy the house altogether, and they show very clearly that this was the most desirable course to follow.

By pricing the cost at 2s. 6d. per cubic foot, they have managed to keep within the stipulated limit of £40,000 (a sum that does not err on the side of munificence for a building of such dimensions), and this has been done only by keeping the cubic capacity of the building as low as possible.

The plan is simply and conveniently arranged, and the architects are to be commended on securing a south and west aspect for all wards. Communication between the administrative block, kitchens, and wards is convenient and direct.

Messrs. Mennie and Smith have paid particular attention to such important points as through ventilation and the position of lavatories, which latter are properly cut off from the main portion of the building. The out-patients' block, operating theatre, mortuary, etc., are conveniently planned for efficient working. The kitchen block and nurses' dining-room might be somewhat larger with advantage, and the passages to the wards could, perhaps, be better lighted; but on the whole the plan is extremely good, and there is little cause for adverse criticism.

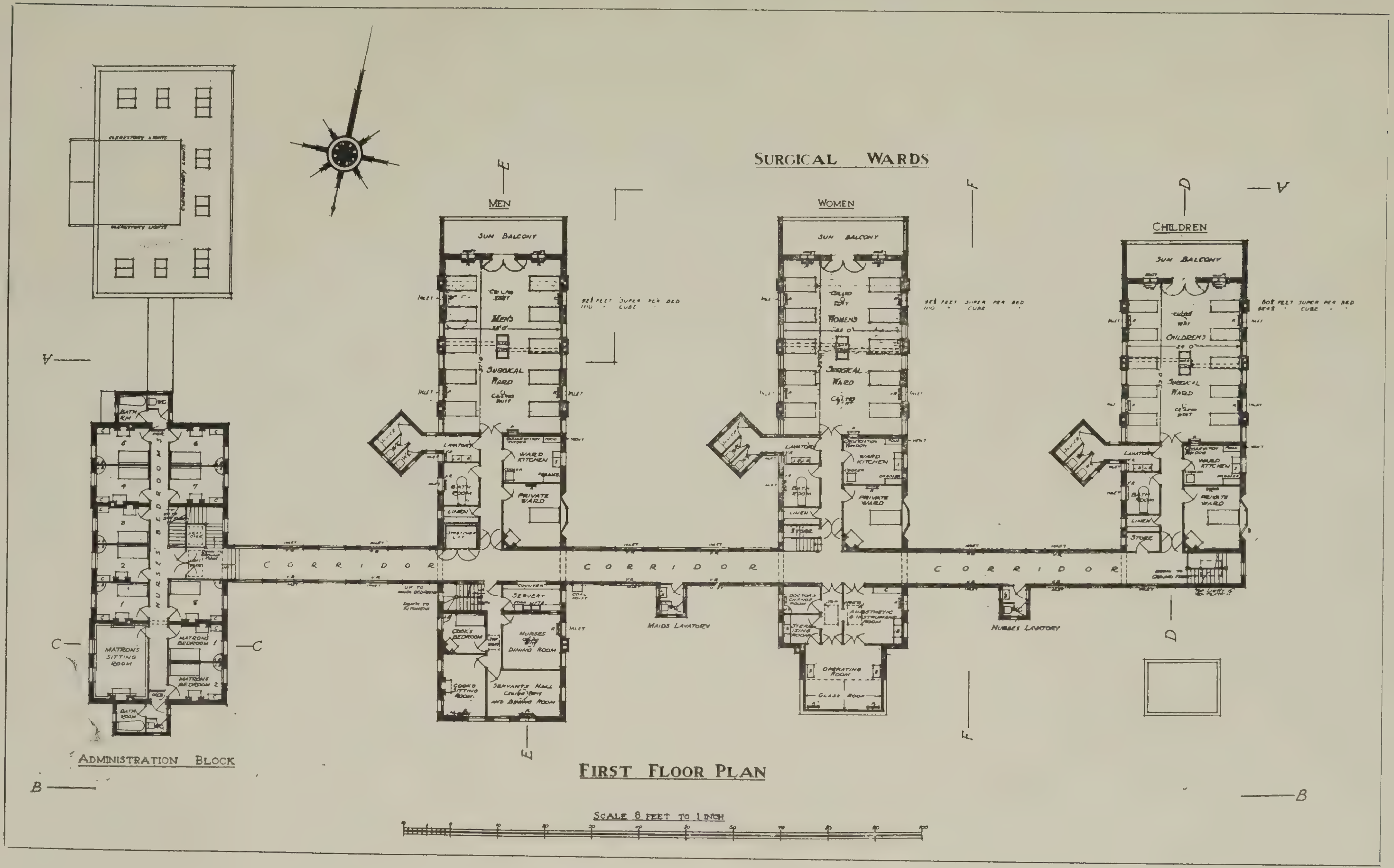
The elevations are restrained, and eminently appropriate to purpose.



EAST HAM HOSPITAL COMPETITION: SECOND-FLOOR PLAN OF WINNING DESIGN.
F. E. MENNIE, A.R.I.B.A., AND C. B. SMITH, ARCHITECTS

Current Architecture. 70.—East Ham Hospital Competition: First-floor Plan of Winning Design

F. E. Mennie, A.R.I.B.A., and C. B. Smith, Architects



In this design, placed first in the recent open competition, the combined corridor and pavilion type of plan has been adopted, with the administration block giving direct access to the main corridor of the hospital, off the southern side of which the wards are disposed in two-storey blocks. A full description of the design is given on page 376.

Mr. Malcolm Sparkes on the Guild of Builders

MR. MALCOLM SPARKES, secretary of the Guild of Builders, and Mr. A. Hull, a bricklayer, addressed members of the Architectural Association last week on "The Rise of the Guild of Builders." Sir Gilbert Scott, A.R.A., F.R.I.B.A., occupied the chair.

Mr. Sparkes said the biggest idea in the world to-day was that of industry as a self-governing public service. The building industry was leading the way, not only here but in Germany and America. What was happening in England was a race between three great industries—the miners, the railwaymen, and the building trades—for the achievement of full industrial self-government, and he believed the building industry was going to be the first to get the system into operation on a scale which would demonstrate whether it was a success or not.

The guild idea was essentially to provide service for the community; it was a self-governing movement in which all services pulled together. In England contracts amounting to well over £3,000,000 had been signed, and in London contracts had been signed for over £700,000. The Guild of Builders could best be described as a wheel with radiating spokes. The centre was the National Guild Committee, which did not yet exist, but which was certain to be a development in the near future. The National Committee would have the work of supplying materials for the building industry, and it would also deal with all questions of insurance; arrange credit, and do a good deal of research work.

The stock criticism against the Guild was that it was planning an enormous trust, and would, in the end, bleed the community to death. The old form of trust was a combine of shareholders to secure increased dividends, but this new form of combine would be one of self-governing units with labour in control and capital hired at a fixed rate.

The next type of committee was one of which London was the first fully-developed example. This was the second ring of the wheel, and was called the regional board. It was an industrial society, the members of which were elected by the trade unions and organisations within the area. The regional board were the directors, who signed contracts and did everything that a first-class contractor did, but they did not supply labour for the jobs.

That was done by the different area committees. The experiments at Walthamstow and Greenwich had proved a great success, and it looked as if the machinery—which was really control by the rank and file—would work swiftly, smoothly, and without friction. The letter they sent to each workman when he was engaged concluded with the words: "We are going to make industry splendid," and that was the root of the whole idea. It was the boldest thing that had been done in industry for a very long time, and the soundest.

A second great feature of the Guild organisation was the idea of continuous pay, by which labour became the first charge on the production and was no longer treated like bricks and timber. There was pay in sickness, holiday in bad weather, and, ultimately, in work or in reserve. Then, in no circumstances would the surplus be distributed as dividend, but would go to the improvement of the service rendered, in improving the equipment of the Guild, in technical training, and, above all, in research. He looked to the scheme to produce a revival in the building art greater than had been seen since the Middle Ages. In this the architect would play his part as the first technician of the industry.

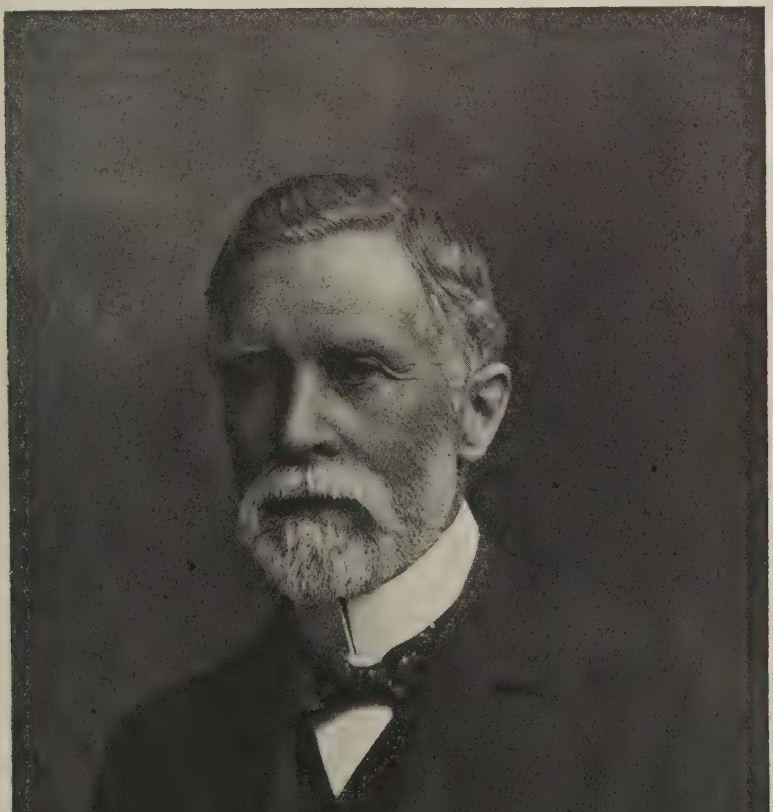
So far the Guild had only dealt with the housing schemes of public authorities—in London 400 houses for Walthamstow and 190 houses for Greenwich—but they were now considering a form of contract for building houses for private people. It would be a contract in which the Guild's cards would be on the table, and with no invisible margin which others did not know, and in which they had to manœuvre. Their experience had been that once the fear of unemployment was removed from the men's minds they worked with enthusiasm, pulling their full weight, so that the special provision made to give them security was fully compensated for. Concluding, he insisted that the Guild movement was not a war of class against class, but of ideas against ideas.

Mr. Hull contended that the bricklayer was a cog, just as the architect was a cog, and the architect was no more important than the workman—less important in a way, because although the architect might design beautiful buildings, they were no use on paper, and he had never yet heard of anyone sleeping inside a plan. As chairman of the Walthamstow Area Committee, Mr. Hull was able to give an interesting account of the Guild's first contract in connection with the Walthamstow housing scheme. He stated that there were 250 men working on the Walthamstow site, and he had never before seen men show such zeal and enthusiasm in their employment. Old conditions led to scamping, but Guild work stood for thoroughness and efficiency.

Mr. W. G. Newton, M.A., A.R.I.B.A., who moved a vote of thanks to the speakers, said that in the Guild idea the danger was sameness and lack of progress.

A short discussion followed, and one speaker said that he always found that the foreman would, if you would let him, do the job better than he was asked, and that the contractor would, if you would let him, do the job rather worse.

Mr. Woodhouse, however, denied this, and said that contractors were human like the rest, and he always found them eager to do the work with care and do it well.



THE LATE MR. ARTHUR HILL, F.R.I.B.A.

(The distinguished Irish architect who died last month. An obituary notice appeared in our last issue.)

Improved Methods of Concrete Construction for Housing

This week we conclude the description (of which the first part appeared in our last issue) of a number of improvements in the methods of constructing cottages, etc., that have been invented by officers of the London County Council.

By means of another invention (No. 3) a method is provided of constructing concrete walls in which the advantages of monolithic construction can be obtained without the usual attendant disadvantage involved in the cost of timber or like temporary form work. The method consists in first making a cavity wall by the aid of concrete blocks provided on their inside surfaces with undercut grooves or other means of securing adhesion, and then pouring concrete into the cavity. The poured concrete thus unites with the blocks, which first act as temporary formwork, and then become permanently cast into the complete wall. The outer blocks of an external wall are preferably formed of hard concrete, and the inner blocks or soft concrete. The blocks are preferably assembled one course at a time, the concrete being then filled to a level approximately to one-half the height of the course in question; in this way the horizontal joints become staggered through the wall. The outer surfaces are preferably formed with undercut grooves to facilitate keying of plaster or rendering.

In the accompanying drawings Fig. 1 shows a section through the lower portion of a wall constructed in accordance with the invention. Fig. 2, an elevation of a portion of the wall prior to plastering or rendering, and Fig. 3 a sectional plan of a portion of the wall.

Inner and outer blocks, or slabs I, O, are first erected upon a damp-course block D. These blocks are provided on their horizontal surfaces with co-acting ridges and grooves G to facilitate assembly and to assist in preventing ingress of damp through the joints. A single course of these blocks I, O, is preferably first erected and concrete C is then poured into the cavity to a height approximating to one-half of the height of the blocks as indicated in dotted lines. Another course of blocks is then laid, and concrete is poured into the cavity up to a level approximately half-way up the second course of blocks, and so on until the wall is completed, the topmost course being completely filled in with the poured concrete.

The blocks, or slabs I, O, are provided on their inner and outer surfaces with dovetailed grooves G. The grooves on the inner surfaces act as keys for the cast concrete, and the grooves on the outer surfaces act as keys for rendering R and plaster P respectively. The particular form of block which it is preferred to use for this purpose is that described in the next invention.

The invention may be summarised as follows:

1. A method of constructing concrete and like walls, consisting in forming inner and outer shells of similar moulded blocks and slabs, provided on their inner surfaces with means for securing adhesion to concrete, and in casting concrete between the said inner and outer shells.

2. The employment as formwork for concrete or like walls of concrete or similar blocks or slabs, provided on their inner surface with means for securing adhesion to concrete, the formwork being permanently cast into the wall.

3. In a method of constructing concrete and like walls referred to in paragraph 1, breaking the joint between successive blocks or slabs and successive layers of poured concrete substantially as herein described.

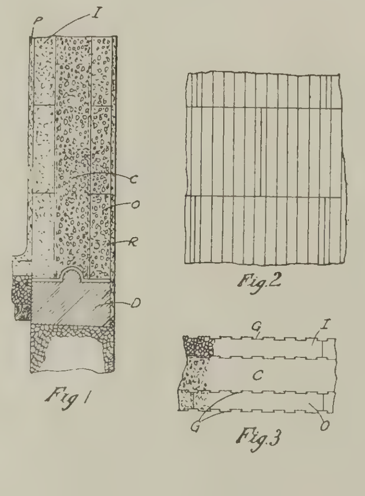
4. Concrete walls constructed in the manner substantially as herein described and illustrated.

Concrete building slabs or blocks employed for building up walls, partitions, etc., constructed in accordance with another invention (No. 4) are illustrated. Fig. 1 represents a plan of an improved slab, Fig. 2 an elevation, Fig. 3 a side view, and Fig. 4 represents to smaller scale a wall or partition built up of the slabs.

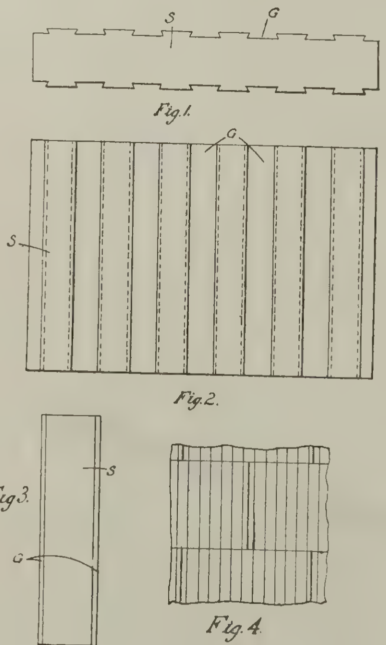
The slab S is formed on its two faces with undercut grooves G, which are so spaced that when successive slabs are built up to break joint in the manner indicated in Fig. 4 there will be a continuous groove down the slab. The slabs are preferably formed on one horizontal face, with a central channel C, and on the other horizontal face with a co-acting central ridge R. If, as is preferred, the grooves G on both sides of the block are exactly similar to each other, the slabs can be placed without the necessity of considering which side is to form the front and which is to form the back of the slab.

The invention may be summarised as follows:

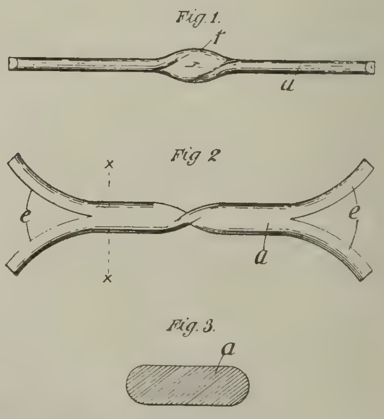
1. A building slab of concrete or like



No. 3.



No. 4.

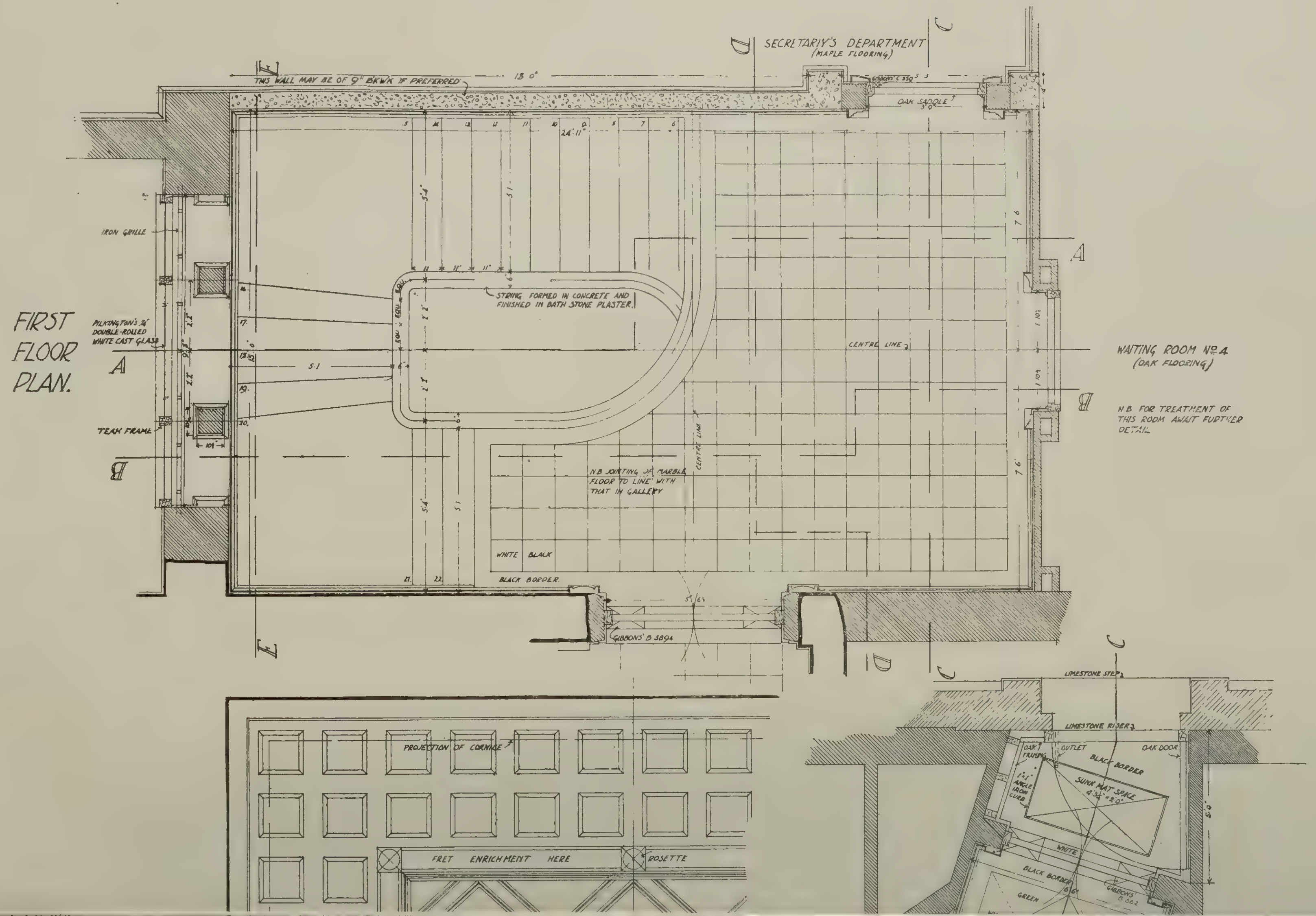


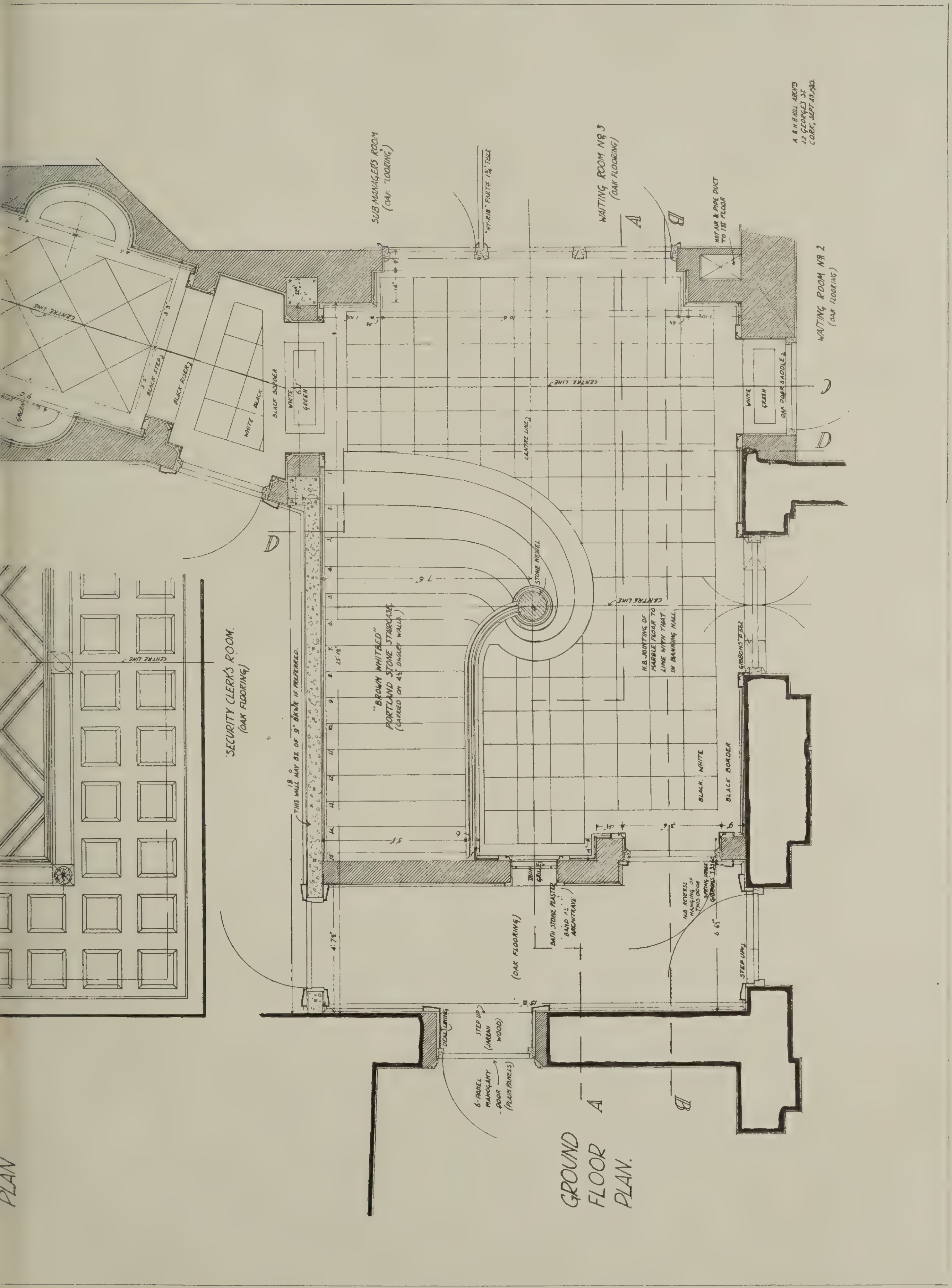
No. 5.

HOUSING INVENTIONS BY OFFICERS OF THE LONDON COUNTY COUNCIL.

Architects' Working Drawings. 32.—Munster and Leinster Bank, Cork : Details of Staircase Hall, etc.

The Late Arthur Hill, F.R.I.B.A., and Henry H. Hill, A.R.I.B.A., Architects


FIRST FLOOR PLAN.
SECRETARY'S DEPARTMENT (MAPLE FLOORING)
THIS WALL MAY BE OF 9" BKWK IF PREFERRED
13' 0"
OAK SADDLE
IRON GRILLE
PILKINGTON'S ¼" DOUBLE-ROLLED WHITE CAST GLASS
TEAK FRAME
STRING FORMED IN CONCRETE AND FINISHED IN BATH STONE PLASTER.
CENTRE LINE
WAITING ROOM NO. 4 (OAK FLOORING)
N.B. FOR TREATMENT OF THIS ROOM AWAIT FURTHER DETAIL
N.B. JOINTING OF MARBLE FLOOR TO LINE WITH THAT IN GALLERY
WHITE
BLACK
BLACK BORDER.
GIBBONS' B 3894
LIMESTONE STEP
LIMESTONE RISER
OAK FRAMING
OUTLET
BLACK BORDER
OAK DOOR
SUNK MAT SPACE
ANGLE IRON CURB
WHITE
GREEN
PROJECTION OF CORNICE
FRET ENRICHMENT HERE
ROSETTE
A
B
C
D
E


GROUND FLOOR PLAN.
PLAN
SUB-MANAGER'S ROOM (OAK FLOORING)
WAITING ROOM No 3 (OAK FLOORING)
WAITING ROOM No 2 (OAK FLOORING)
SECURITY CLERK'S ROOM (OAK FLOORING)
"BROWN WHITBED" PORTLAND STONE STAIRCASE (CARRIED ON 4½" DWARF WALLS)
STONE NEWEL
CENTRE LINE
THIS WALL MAY BE OF 9" BRICK IF PREFERRED.
HOT AIR & PIPE DUCT TO 1ST FLOOR
6-PANEL MAHOGANY DOOR (PLAIN PANELS)
STEP UP (JARRAH WOOD)
DEAL LINING
BATH STONE PLASTER BAND TO ARCHITRAVE
(OAK FLOORING)
STEP UP
BLACK BORDER
BLACK
WHITE
GREEN
OAK DOOR SADDLE
BLACK RISERS
BLACK STEPS
N.B. JOINTING OF MARBLE FLOOR TO LINE WITH THAT IN BANKING HALL
A
B
D

These details should be studied in conjunction with the various other drawings of the Munster and Leinster Bank that have appeared in recent issues, notably—ground-floor plan of the building (March 2, p. 248), details of staircase hall (March 9, pp. 298, 299), and sections of staircase hall (March 16, pp. 326, 327). Taken together, these drawings show very clearly the design and construction of a fine modern staircase.

moulded material provided on both sides with grooves for securing adhesion to plaster, concrete, or the like, characterised in that the grooves on one side are so spaced that successive courses can be built up so as to break vertical joint and to form continuous vertical grooves in the wall.

2. A building slab, referred to in paragraph 1, in which the grooves on both sides are exactly similar to each other, so that the faces of the slabs are reversible.

3. A building slab substantially as herein described and shown.

Another invention (No. 5) relates to wall-ties, which are employed for maintaining, at the requisite distance apart, the shells of a cavity wall of a building or the like. The invention relates more particularly to metal wall-ties, in which a coating of enamel or the like is provided to protect the tie against corrosion by moisture and the like. Such metal ties are usually made from a metal blank of rectangular section, ends being fish-tailed or similarly extended to give a grip in the mortar or concrete of the walls in which they are embedded. When such ties are coated with enamel or the like there is a tendency for the coating to crack at the sharp edges, with the result that corrosion takes place. In accordance with the present invention, the blanks from which the ties are made are formed without sharp edges, so that the cracking tendency of the enamel or the like is minimised.

In the accompanying drawings Fig. 1 represents an elevation of a wall-tie, Fig. 2 a plan of the same, and Fig. 3 represents to enlarged scale the cross-section of the tie taken along the line XX (Fig. 2). The tie is formed from a strip *a* of metal, the edges of which are rounded; the degree of rounding may be varied, but it is preferred that the edges shall form semi-circles. A twist *t* is formed in the usual manner in the centre of the tie to assist in overcoming the tendency for moisture to creep from one side of the tie to the other. The ends *e* are expanded or fish-tailed; it is not essential that the edges of these ends be rounded, because they become embedded in mortar or the like, and so are protected from the action of moisture.

The invention may be summarised as follows:

1. A wall-tie formed from a metal bar or strip, the cross-section of which possesses no sharp edges, for the purpose described.

2. A wall-tie constructed from a metal strip or bar of which the cross-section is a rectangle with rounded edges, substantially as and for the purpose herein described.

3. An enamelled metal wall-tie, substantially as herein described and illustrated.

Training Disabled Men at Cricklewood

By courtesy of the Ministry of Labour some twenty-five members and representatives from the London Association of Master Decorators had the pleasure of a personally conducted tour of the Cricklewood workshops on Monday afternoon, March 14.

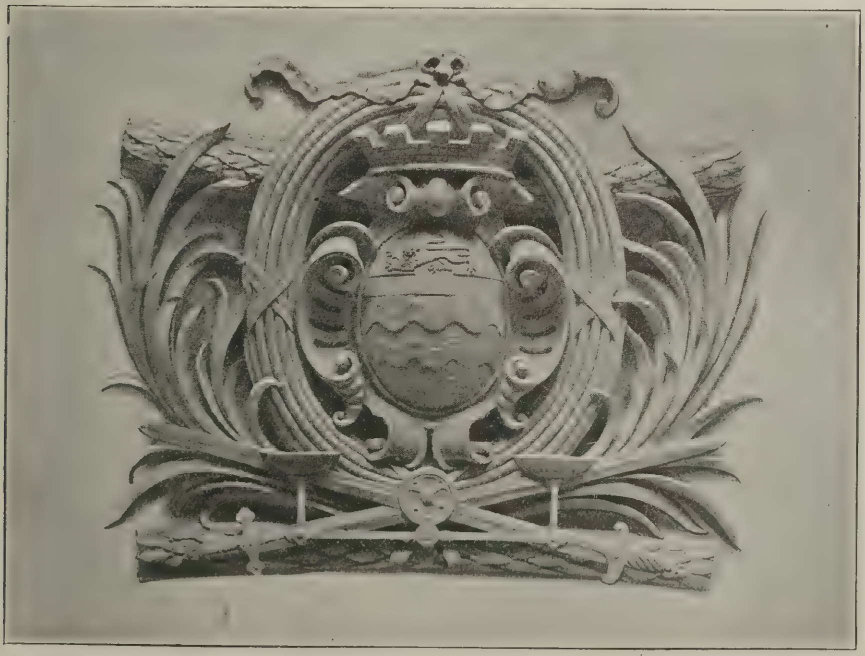
The party were met by Mr. Blaber, the superintendent, who explained that some 500 ex-Service men are employed there, all of whom are suffering from wounds or other war disability, and that the normal course is nine months, reduced to six months only in certain trades.

The majority of trainees come in quite fresh to their respective crafts and "learn by doing," lecturettes being given at suitable intervals during the course of exercises arranged, when from notes and observations made they are eventually able to do their own drawings, setting out, etc.

Thus proceeding from the simple to the complex, under supervision of skilled teachers, and having their work tested as they advance, the men are thoroughly taught the practical reasons for what is attempted at each stage.

The end which this centre has in view is to turn out, as far as limited time allows, all-round men and not specialists in one particular section of a trade.

The visitors were shown over the fine range of workshops abutting on Cricklewood Broadway, comprising the following trades, at all of which the men were working:



PLASTER COAT OF ARMS IN NEWINGTON SESSIONS HOUSE. (See page 397.)

Sanitary Section.

Here one saw lead, soil, and vent pipes properly branched off and fixed to wall, ranges of lavatory wastes, w.c.'s, and baths with their supplies and connections; lead drips and flats and box gutters; with numerous examples of dressed leadwork, such as finials, tacks with pipes, etc., on benches.

Plasterer.

In a fine, airy shop was shown a series of four bays, where ceilings, cornices, and walls are treated in turn in the same manner as an ordinary dwelling house, and from plain solid plastering to the finishing in Keene's or other cement. Various patterns of decorative work, and the process of casting ceiling ribs, etc., from jelly moulds, were exhibited. On the gallery upstairs were seen some excellent high relief geometric and other ceilings, which constitute the "passing out" test of these men after six months' training. A very fine classic door opening with good cornice caps and fine fluted columns gave evidence of their skill.

Decorator.

A series of plain and decorated rooms leads to the painters' shop, where appear grained doors and dados in various imitation woods, marbling, sign-writing, and (in course of completion) a stencilled wall pattern. The graining, etc., is copied direct from patterns of the real wood, etc., hanging around the shop. The whole constitutes a wide scope for a man's ability or interest in this branch.

Joinery.

This is a nine months' course, and apparently most popular, as it is the most extensive portion of the factory. One had but to "look around" for evidence of skill, all kinds of models and sections of joinery work abounding on walls and above the busy benches. Special care is given in instruction as to mitreing of all kinds, and men are encouraged to set out their own work, take off quantities, and instruct machine shop. Numerous setting-out boards were in evidence, also a series of some forty model drawings for working to. One especially interesting model was of a panelled room complete to scale. A small kit of tools is granted each man, and their use carefully explained.

Machine Shop.

This is well equipped with up-to-date wood working machinery, the care and adjustment of same being carefully dealt with. One saw demonstrated the process of slabbing planks, planing, grooving, band sawing, ramps, and twists, with all the usual accompaniments of a busy machine shop. Around the gallery was proudly shown a series of turned and square columns all executed at this centre.

Architectural School.

Under this gallery and adjoining central court is a well-lighted studio, the whole of whose framing and joinery details were designed by trainees, despite some scepticism at headquarters. Here are taught practical draughtsmanship, as shown by numerous well executed coloured scale drawings and details, quantities, and surveying.

Bricklayer and Mason.

All the simpler branches of these trades are taught, such as these men would require to know in ordinary building work, including buttressed walls, flues, and arches. In the latter a good "banker" mason is their objective, as obviously little opportunity for "fixing" exists. The men commence on Bath or "soft" stone, and thus prepare for the harder work on Portland stone, which one saw from the rough block to moulded caps and corbels with scrolls, etc. Special tuition is given in this latter difficult branch which should prove of great use when the men leave. Good examples of the usual chisel draughting, vermiculated, and other ornamental finishes could be seen about, as well as a small column in Hoptonwood stone.

It is a pleasure to record the courtesy shown to the party by Mr. Blaber during the tour and his evident enthusiasm for our "boys who did their bit." It is now "up to" employers and trade unions to do all they can to give them a chance to "keep the home fires burning" by applying to the Ministry of Labour for the trainees as openings occur.

C. B. CANT.

In the course of a communication to the writer of the above excellent report, Mr. Blaber says: "There is much more underlying the training process than the actual technicalities of the various crafts. One of the most difficult has been the creation of enthusiasm in the men themselves, together with strict discipline, and at the same time a contented and not a sullen acceptance of the conditions laid down. No doubt you observed at the time of your visit that we have practically obtained this ideal, but I am afraid few would realise what patience and persistence have been required in the process. It is only possible for us to give these men a thoroughly complete grounding in the rudiments of their trade, however intensive their training, and that they will still require a great deal of broadminded, sympathetic assistance from their employers, foremen, and their working colleagues after they leave their factory training."

Book Notices

An Electrical Pocket Book.

An up-to-date and reliable electrical pocket book is obviously of definite and permanent value to anyone connected with the industry. In that under notice, careful revisions and additions have been made, with the result that there are 610 pages of useful information on every branch of electricity—from lighting, heating, cooking, and lifts and cranes, to wireless telegraphy and telephony. Sections are also devoted to Acts of Parliament and official rules, standards for electrical machinery, patent law, and first aid, and there is a handy buyers' guide in French, Spanish, and Russian. All the information is given in a clear, concise, and practical manner, with the addition in many cases of illustrations or diagrams.

The "Practical Engineer" Electrical Pocket Book and Diary for 1921. Twenty second year of issue. Net price, cloth 2/-, best binding 2/6. The Technical Publishing Co., Ltd., 1 Gough Square, Fleet Street, E.C.4.

Batty Langley Revived.

Although the industrious Batty Langley has been often derided and reviled on the assumption that he cheapened architecture by his numerous publications (which doubtless encouraged builders to dispense with the architect) and by overstocking the profession through admitting all and sundry to his school of architecture in Soho, it must be admitted that he did much good work in his day, when the facilities for procuring any sort of technical education were extremely scanty. That some of his educational works deserve to be rescued from oblivion, we share the evident opinion of Messrs. John Tiranti and Co., who have just issued a wallet of some five-and-twenty stout cards on which are clearly printed fifty-six designs. First come "the five Orders," and these, comprising sixteen plates, are followed by a large number of miscellaneous designs—comprising gate-piers, doors, monuments, windows, chimney-pieces, ceilings, "iron panelling for staircases and an iron gate." It is mentioned, in a terse but adequate preface, that these are taken from "The Builder's and Workman's Treasury of Designs," which was first published in 1745. In their present very handy form they should renew the popularity they had in Batty Langley's day; for, generally speaking, they embody imperishable principles.

A Pocket Edition of 'Treasury of Designs; or the Art of Drawing and Working the Ornamental Parts of Architecture." By Batty Langley. Illustrated by 56 selected specimens, etc. London: John Tiranti and Co. Price 4s. 6d.

British Scientific Instruments.

Great Britain is proud of her predominant share in developing the science underlying the manufacture of optical instruments. It is only necessary to mention such names as Newton, Young, Brewster, Herschel, Airey, Dollond, Lister, Maxwell, and Rayleigh to realise to what a great extent this country has been responsible for the instrument-making of the world. The British-made instruments illustrated in the book under review indicate the perfection of design and workmanship that may be looked for in this department of industry. Not only is the book a ready means of information and reference with regard to scientific instruments of every description, but it also shows the great variety that are produced in Great Britain. The British Optical Instrument Manufacturers' Association, under whose auspices the book is issued, is composed of the leading optical instrument makers in Great Britain. The advent of the war found the industry in such a healthy state of activity that within a short time it increased to the necessary extent to equip a new army of five million men and supplied many million pounds worth per annum of the highest-grade scientific instruments. The book under notice is invaluable as a record and as a work of reference.

Dictionary of British Scientific Instruments. Issued by the British Optical Instrument Manufacturers Association. Price 21s. net. Constable and Company, Ltd., 10 Orange Street, Leicester Square, London, W.C.

A Cardiff Appointment

The Department of Architecture and Civic Design, which was started less than a year ago at the Technical College, Cardiff, under the headship of Mr. W. S. Purchon, M.A., A.R.I.B.A., made such a promising start that the appointment of a full-time assistant became a necessity, and at a meeting of the City Council on March 14 Mr. Richard H. Winder, M.A., A.R.I.B.A., of Oldham, was appointed to this position. Mr. Winder, who studied under Professor Dickie at the University of Manchester, obtained the degree of B.A., with First Class Honours in Architecture, and after a period of post-graduate study was awarded the Master's degree.

Central Heating of Dwelling Houses

By An Architect

When some months ago it was announced that a new system had been introduced for centrally heating dwelling houses from a single furnace in the basement, and that with this system neither pipes nor radiators were needed, there must have been many who, like the present writer, felt exceedingly sceptical as to whether such a thing could be accomplished. That it was possible thoroughly and hygienically to heat a complete dwelling through a grating in the floor immediately over the stove not only sounded unlikely but fantastic.

As an occasional contributor to THE ARCHITECTS' JOURNAL, and as one who was fully imbued with such doubts as these, I should like to offer a few observations on an installation of this description, which I heard of by accident and was able to inspect while recently in Hampshire.

My investigations, it must be admitted, have had the result of completely reversing my former judgment, and in submitting the following brief account of the system and its working, my chastened spirit bids me remember the unwisdom of rejecting a theory merely because it seems improbable, or is at variance with pre-conceived ideas.

The installation referred to has been in successful operation during the whole of the past winter in a double-storied house at Boldre, owned by Mr. Meischke-Smith, who kindly afforded me every facility for examining the apparatus. It may be stated on the authority of this gentleman that before the present heating system was installed the house, in spite of its fourteen open fires—excluding the servants' quarters—had an evil reputation for coldness, the corridors and staircase being particularly bad in this respect.

A few particulars relating to the accommodation of the house are here given, together with an interior view of it. On the ground floor there is a large hall, a smaller ante-hall, a drawing room (40 ft. by 15 ft.), dining and smoking rooms, a 6 ft. corridor 48 ft. long, a staircase, hall, and various offices, while the floor above contains six bedrooms, two bathrooms, and a similar corridor to the one below.

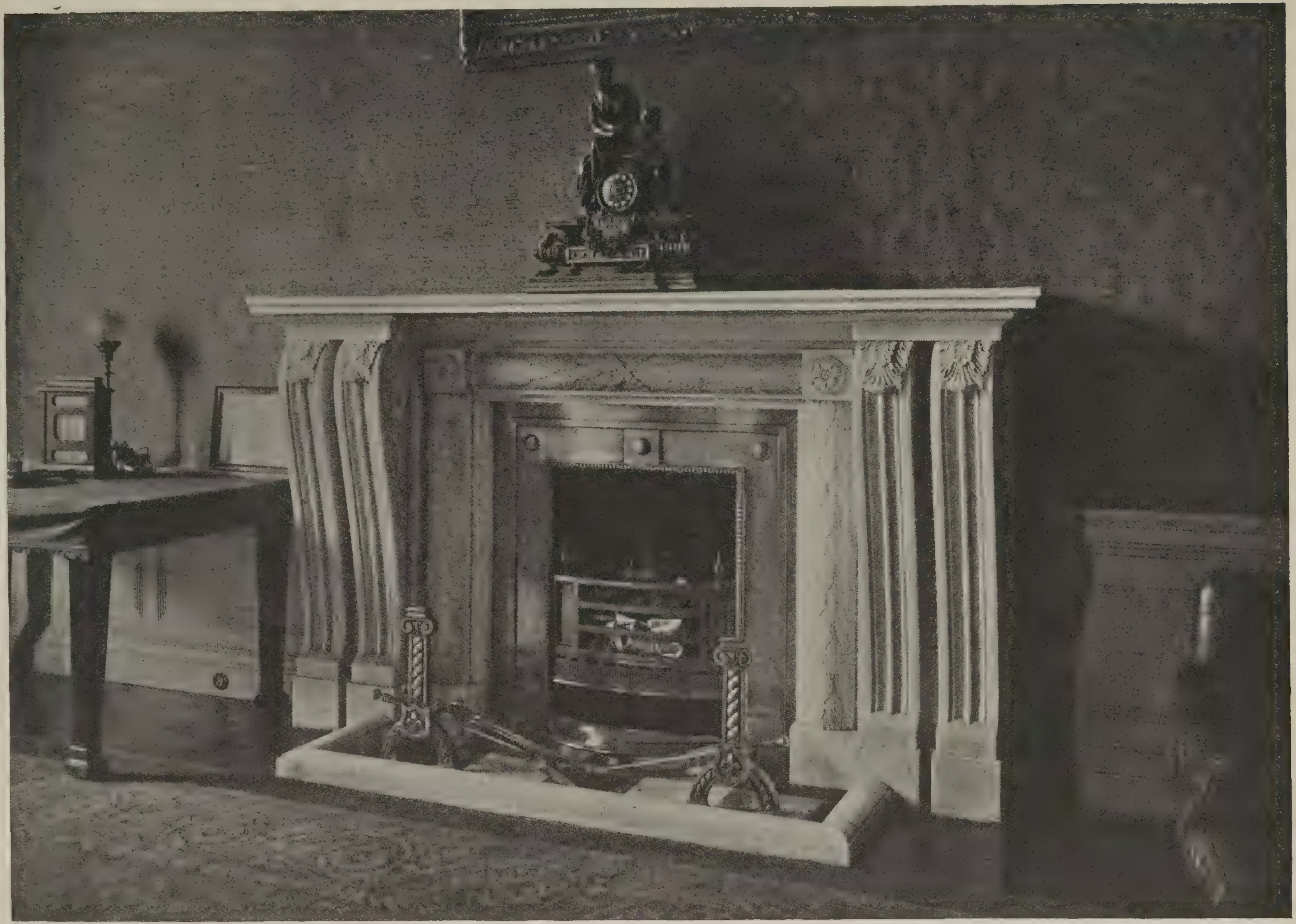
Before proceeding farther it will perhaps be convenient to state that the apparatus operates on the well-known principle that warm air rises and cooler air falls. This basic physical fact is the sole explanation of the system, and there is nothing else to note regarding it, unless we pay tribute in passing to the high degree of ingenuity which has evolved the type of furnace best calculated to take full advantage of this great law.

The furnace is therefore the chief element in the system, and it is upon this that the inventive skill of our transatlantic cousins has been concentrated. In the result they have produced a highly specialised piece of mechanism, which it is necessary briefly to describe.

In its essentials the apparatus comprises (a) a furnace, from which the products of combustion pass through a chimney flue to the outer air; (b) a radiator for the collection and utilisation of the heat produced from the burning fuel; (c) a pan of water for humidifying the heated atmosphere; and (d) an outer casing through which cool

Details of Craftsmanship. 9.—Fireplace in Boardroom of the Munster and Leinster Bank, Cork

The Late Arthur Hill, F.R.I.B.A., and Henry H. Hill, A.R.I.B.A., Architects



It was with deep regret that we had to record last week the death of Mr. Arthur Hill which, by a sad coincidence, occurred almost immediately after arrangements had been made to publish a series of illustrations of the Munster and Leinster Bank in this Journal. Several of these have already appeared, and others are published in this issue. The fireplace shown above, in its refinement of character, is typical of the architectural treatment throughout.

air circulates into (e) an inner casing. The latter encloses the air which, having entered by way of the openings at its base, is then heated by convection and finally escapes through a perforated grating in the floor.

This grating, which will be noticed in the view given, is of square form. Its central area is circular, and it is through this part of it that the warmed air ascends from the inner casing or jacket, while the remaining spandrel-shaped portions admit the descending currents of air into the outer jacket.

On the occasion of my visit to the house a few weeks ago I found the temperature to be comfortably warm and equable in all parts of it. The air was, moreover, entirely devoid of that "burnt iron" smell which is not infrequently discernible with some systems of heating.

On descending to the basement to examine the furnace I discovered that it threw out practically no heat at all. Indeed, my attention was drawn to the fact that Mr. Meischke-Smith's wine cellar, though situated close by, was unaffected by it. The fuel consumption varies from two to four scuttles of coke.

The metal flue pipe, which carried the products of combustion into the chimney, was also surprisingly cool to the touch. This low temperature is explained by the completeness with which the heat generated by the fuel is conserved within the apparatus until it is ultimately discharged through the grating. It would appear, therefore, that the actual heat loss by way of the chimney is very slight indeed.

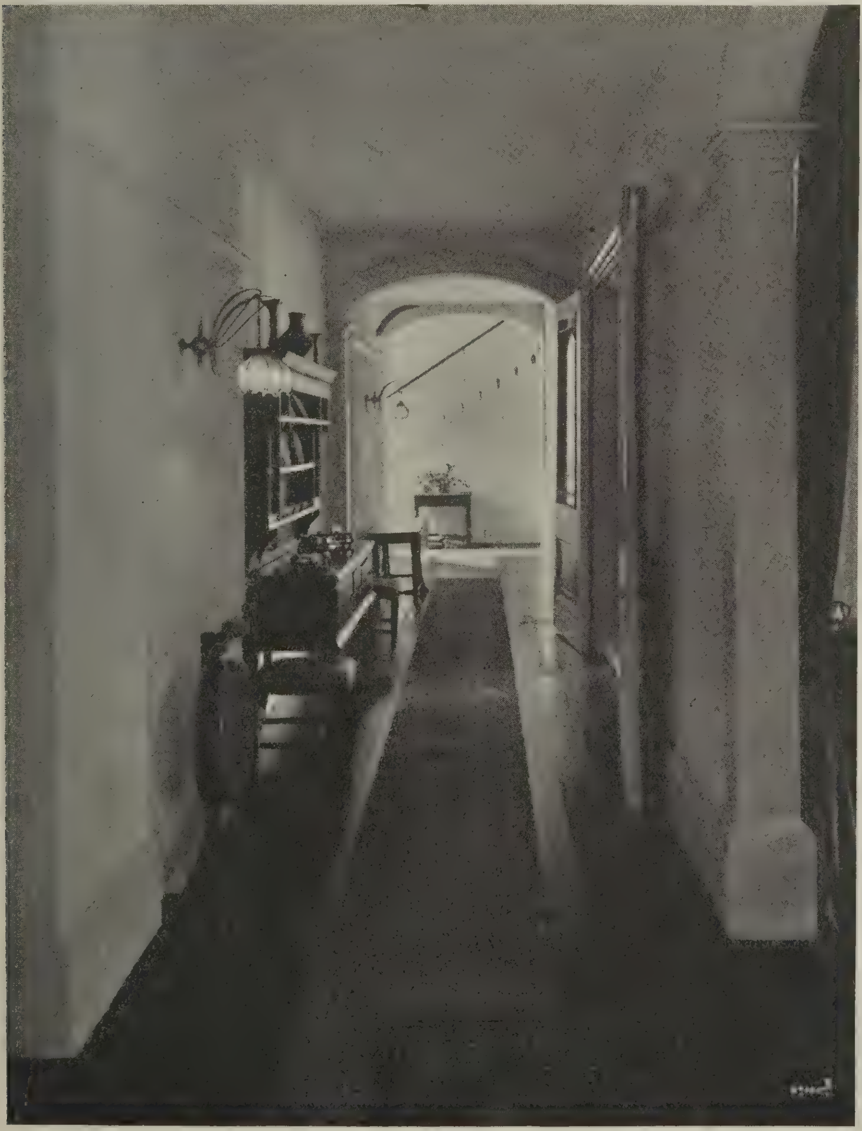
My next task was to study the grating in the floor above. The warm air rising from it could of course be plainly felt when one stood directly over it, but it was by no means oven-like in its intensity, while the temperature a few feet from it was no higher than at the end of the corridor, on the stairs, or in the bedrooms above. The differences of temperature in the metal itself were, however, most marked. In the circular area through which the heated air was rising, the grating was as decidedly warm when the hand was placed on it as the remaining portions were cool. It was, further, a simple matter to detect the downward flow of cool air by wetting the back of the hand and feeling the evaporation of the moisture.

That very active circulation was going on could be also demonstrated ocularly. Small pieces of tissue paper placed over the centre of the grating immediately fluttered towards the ceiling, and coming within the influence of descending currents of cooler air, rapidly fell, and were either sucked through the perforations or lay flat and motionless on the grid.

At close quarters, then, it was clear that the principle held good. And as the subsequent action of these contrary air currents has been well described in Mr. Clarence M. Lyman's paper on the subject*—read in October last before the Society of Architects—his exact words are here quoted: "The warm air rises to the highest points of the rooms and up through the stairway until it mushrooms out at the ceilings, displacing the cooler air, which falls to a lower level. This cooler air, being free to seek the lowest level, travels along the floor, and, falling then between the two casings, establishes a circulation. This circulation will be continuous just as long as there is any heat within the furnace to raise the temperature of the air, and so destroy the equilibrium between the heated and cool columns."

Whether these statements are scientifically accurate or not can hardly be asserted off-hand, especially by one who does not profess to have the necessary qualification. But that they offer a comprehensible explanation of demonstrable results, and that the hypothesis fits the facts, the writer entertains no doubt at all.

A heating system such as has been described has very obvious possibilities, and if what has been written should prove of interest to those who have no direct knowledge of it, it is hoped that they will be stimulated to investigate it for themselves.



VIEW IN HOUSE AT BOLDRE, HANTS., SHOWING GRATING OF CENTRAL HEATING APPARATUS.

---

* A summary of Mr. Lyman's paper appeared in our issue of October 20, 1920.

The Architectural Association

The Council's nominations for the House List, Session 1921-22, are as follows: President, W. G. Newton, M.A., A.R.I.B.A.; Vice-Presidents: F. C. Eden, M.A., E. Stanley Hall, F.R.I.B.A., Treasurer: Stanley Hamp, A.R.I.B.A.; Editor: M. J. Tapper, A.R.I.B.A.; Librarian: G. G. Wornum; Hon. Secretary: J. Alan Slater, M.A., A.R.I.B.A.; Ordinary Members of Council—Past President: G. Gilbert Scott, A.R.A., F.R.I.B.A., Major H. Barnes, M.P., F.R.I.B.A., C. Williams Ellis, Cyril A. Farey, A.R.I.B.A., H. I. Merriman, A.R.I.B.A., A. Silcock, A.R.I.B.A., L. S. Sullivan, A.R.I.B.A., M. T. Waterhouse, A.R.I.B.A., A. B. Ll. Roberts, T. M. Wilson, Gilbert H. Jenkins, A. H. Moberly, T. S. Tait, Manning Robertson.

The following gentlemen have been elected new members: R. H. Parry, M. S. Arcas, Thomas Wallis, H. J. Thompson, C. St. G. Miller, L. J. Young, H. A. Newton, R. M. Walker, D. A. G. Smith, C. W. Jackson, W. Brown, J. W. Harland, E. W. Roberts, H. D. Pearson, L. Wilson, C. C. Lowe, H. E. Jackson, J. C. L. Glover, E. J. C. Holloway, J. Noyce, A. P. Lay.

The next ordinary general meeting will be held on Monday, April 25, when Sir Lawrence Weaver, K.B.E. (Director-General, Land and Supplies Dept., Ministry of Agriculture), will read a paper on "Rural Cottages: Common Sense and Architecture." The nominations of officers and Council, Session 1921-22, will also be made.

Enquiries Answered

Calculating Reinforced Concrete Floor Materials.

W. P. J. writes: "Is there a short and simple method of arriving at the thickness of the slab, the dimensions of the beam, and the percentage of steel required for an economical reinforced concrete floor over a room 14 ft. x 18 ft. 6 in., the floor to carry an inclusive weight of $1\frac{1}{2}$ cwt. per ft. super?"

—This apparently simple query really covers a very wide field indeed, with which it is difficult to deal adequately in a necessarily brief reply. Maximum economy in any form of structural design is not attained merely by cutting out unnecessary labour and material. After any problem has been divested of all waste there still remain almost invariably quite a number of practical alternative methods of carrying it out; some cheaper in one way, some in another. Frequently it is possible to save labour, but only at the cost of additional or more expensive material, and vice-versa; whilst subsidiary members can often be reduced by adopting more expensive or more numerous main members.

In ordinary building materials the range of possible combinations is generally somewhat limited. In reinforced concrete, however, it is large, and the labour involved in calculating that material by ordinary formulæ is also very great. It may be assumed that unless the designer in reinforced concrete has unlimited time, and rather more than human patience, he requires, even for the simplest floor problem, the following working tools:

(1) A good series of graphs giving values of the position of neutral axis (n_1), of the lever arm (a_1) and the moment of resistance, all in terms of r (proportion of tensile reinforcement) and bd or bd^2, and covering the usual range of rectangular and T sections.

(2) A table of shear spacings.

(3) Plotted graphs of slab floors of various thicknesses, giving particulars of reinforcement and super-load.

(4) A slide rule.

Columns would require further graphs, but with the aid of the above floor problems can be attacked on the following general lines of economy:

(*a*) That additional reinforcement is generally more expensive than additional concrete and casing;

(*b*) That additional concrete means additional weight, but that additional slab thickness is much more serious than extra depth of main beams;

(*c*) That any unduly low ratio of depth to span, whether in beams or slabs, invariably means heavy additional cost.

It is difficult to lay down definite rules, because that which pays in a lightly-loaded floor is not necessarily economical in one more heavily loaded—but generally it will be found that the most economical combination of beams and slab is that in which there are sufficient beams to keep the span of the slabs fairly small, say 5 ft. to 7 ft. The slabs should be no thicker than is necessary to enable them to carry their own weight and the specified super-load with the "economic" ration (0.675 per cent.) of tensile reinforcement.

Even with heavy super-loads any greater thickness generally costs more in concrete and main beam load than it saves in slab reinforcement. In main and subsidiary beams, however, a more generous proportion of depth to span pays well. An effective depth of one-twelfth of the span or an overall depth of one-tenth are very usual, and for ordinary loadings this should mean a tensile reinforcement of about 0.5 per cent. or less. Headroom restrictions seldom allow more than this, and not always as much.

Considering the floor, which is the subject of the query, it will be obvious that one, two, or three main beams 14 ft. span would serve to divide the floor area into bays of (A) 14 ft. x 9 ft. 3 in.; (B) 14 ft. x 6 ft. 2 in.; and (C) 14 ft. x 4 ft. $7\frac{1}{2}$ in. respectively.

Taking the usual values of $t = 16{,}000$, $c = 600$, $m = 15$, reference to a suitable plotted graph of slab floors reinforced with $\frac{3}{8}$ in. rods $\frac{1}{2}$ in. cover, and supported ends will show that the thickness of slab floor which will carry a super load of $1\frac{1}{2}$ cwt. (168 lb.) per sq. ft. in addition to the weight of slab, without exceeding .675 per cent. of reinforcement, will be (A) 6 in., (B) 4 in., (C) 3 in. respectively; and that this will be provided if the $\frac{3}{8}$ in. rods be spaced at 3 in., 5 in., and 7 in. respectively.

A further practical alternative (D) would be a single main beam 14 ft. span, carrying two secondary beams each side, giving slab panels of 4 ft. 8 in. x 9 ft. Of these four possible lay-outs A gives the least run of main beam with its casing and shear reinforcements; but the cost and weight of 2 in. or 3 in. more slab concrete, and the extra slab reinforcement would obviously overbalance any saving.

Including 9 in. bearings, scheme B involves 31 ft. run of main beam, and scheme C 46 ft. 6 in. of lighter main beam, and scheme D 15 ft. 6 in. of heavily-loaded main beam, and 38 ft. of subsidiary. The last-named would permit of the slabs being treated as fixed on three sides and supported on four, but as they would be comparatively thin and lightly reinforced under schemes B or C, the advantage is small, and the economic choice (at ordinary relative prices of steel, concrete, casing, and labour) would probably lie between the two latter. The final choice would probably be determined by the position of window openings.

Assuming that scheme B Fig. 1 were determined upon, the necessary calculations would be as follows:

Weight of 4 in. slabs with superload = 48 + 168 = 216 lb. per sq. ft.

B.M. on 12 in. width = 216 x 6.16 x 74/8 = 12,380 inch-lb.

At B.M. on 12 in. width .1104 x 12/5 = .265 sq. in., r = .265/39.75 = 0.00665. From graph a_1 = 0.88.

Stress on steel in slabs = 12380/.265 x 3.3125 x 88 = 16,000 lb. sq. in. As r does not exceed economic ratio, stress in concrete is below 600 lb./sq. in.

Shear Stress.—Reaction on 12 in. width = 216 x 6.16/2 = 670 lb. Safe shear = 12 x a x 60 lb. = 12 x 3.3125 x .88 x 60 = 2100 lb. Alternate bars to be bent up to meet possible reverse bending moments.

Main Beams.—Say overall depth approximately span/10, and d about span/12 = 14 in. If depth below slab = 12 in. x 6 in., then with 1 in. rods and 1 in. cover d = 16—$1\frac{1}{2}$ = $14\frac{1}{2}$ in.

Weight of rib below slab = 72 x 14 in = 1008 lb.

Reaction of slab on each of two main beams = 11/10 of slab load.

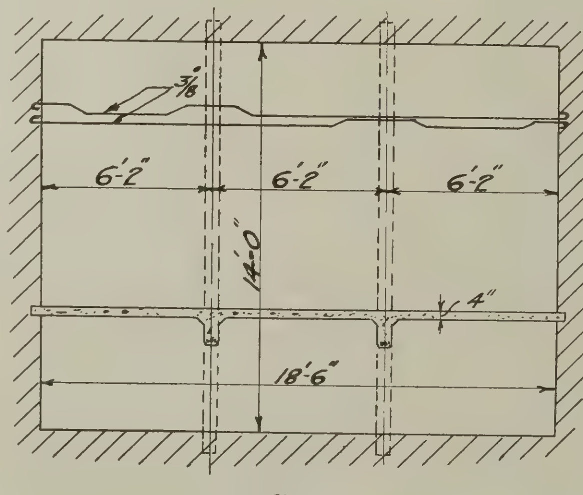
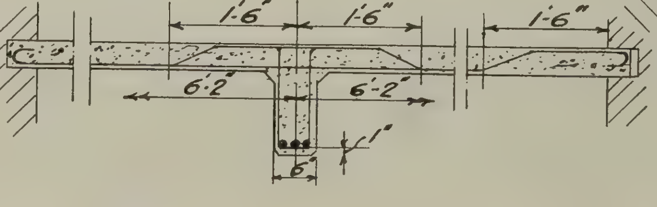


FIG. 1



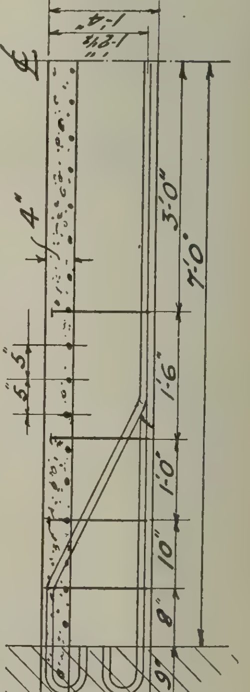


FIG. 2

DIAGRAM ILLUSTRATING CALCULATION OF REINFORCED CONCRETE FLOOR MATERIALS.

Total load $= 1000 + (14 \times 6.16 \times 216 \text{ lbs} \times \frac{11}{10}) = 21800$ lbs.

B.M. $= 21800 \times 168$ in./8 $= 455000$ in lb.

Width of slab in tee beam = Span/4 = 42 in. = b.

B.M. /$bd^2 = 455000/42 \times 14.5^2 = 51.5$.

$s_{,} = \frac{4}{14.5} = .275$.

By graph r required = .0036. At = 42 x 14.5 x .0036 = 2.19 sq. in.

Say three 1 in. rods = 2.356 sq. in.

By graph $a_{,} = .9$.

Check Stress on Steel.—455000/14.5 x .9 x 2.356 = 14600 lb./sq. in. As r is well below the economic ratio, the stress on concrete is well below 600 lb.

Shear Stresses.—Reaction = 10900 lb.

Safe load on concrete = br x a x 60 lb./sq. in.: a = 14.5 x 9 = 13.05.

Safe load on concrete = 6 x 13.05 x 60 = 4700 lb.

Load per foot run of beam = 10904/7 = 1557 lb.

Distance from centre of beam at which reinforcement is necessary 4700/1557 = say 3 ft.

Say two outer bars bent up at slope of 2 to 1 (26½°). S in. 26½° = .447.

Proportion of shear at bearings which will safely be dealt with by bent up bars = 2 x .7854 x .447 x 16000 lb./sq. in. = 11000 lb.

As this is more than the reaction, stirrups are only theoretically required between the point where the bars are bent up and the point 4 ft. from the bearing where the concrete of the beam can deal with the shear. Shear theory being somewhat open to question, a stirrup would be put in at 4 ft. from the bearing, and three others at the usual spacing for distributed loading as Fig 2.

Under the London regulations transverse distributing bars ¼ in. diameter at 16 in. centres would be required in the slabs. P. J. W.

Concrete Floor for a Butter Factory.

R. B. H. writes: "Please advise me as to (1) the best construction for a concrete floor for a butter factory. The floor would be on a good clay foundation. (2) The best known methods for hardening the surface of the floor."

—(1) The construction of the floor would depend upon the area and the weight it would be required to carry, and especially on the method adopted for carrying the goods and materials about. For a fair sized building a floor could be constructed 6 in. thick in concrete composed of one part Portland cement and six parts hard clean aggregate containing enough sand to fill the interstices and then floated over with cement and sand 1 in. thick while the concrete is still "green." The concrete should be reinforced with a layer of expanded metal (The Expanded Metal Company, Ltd., York Mansions, York Street, Westminster, S.W.1) placed in the lower portion of the thickness of the floor, and if in a damp position "Pudlo" or a similar damp-proofing material should be mixed with the concrete.

(2) There are several effective methods of hardening the surface of the concrete, such as "Lapidolith" (Building Products, Ltd.), which has to be mixed with the floating coat. W. S. B.

Housing Experiments at Walsall

Direct labour has been an unqualified success in connection with the borough housing scheme at Walsall, where it has been responsible for some of the earliest houses of the Ministry of Health type to be completed and occupied. The Borough Council has organised its building job on thoroughly progressive lines, with its own joinery and machine shops, light railways and the like, and concrete block-making depôt, in which it manufactures, with aggregate chiefly from its own gravel pit on the site, all the blocks necessary for the concrete section of its scheme.

Brick houses, as well as those of concrete blocks, are here being built by direct labour, and the comparison offers a valuable object-lesson to minds hitherto prejudiced against the use of concrete in any form for housing purposes. Concrete block houses are too often finished on the outside with rough-cast. With some systems this may be necessary or advisable, but where, as in the present instance, a rich, excellent aggregate is obtainable on the spot, suitable for producing blocks of a texture fit for any architectural effect, the blocks themselves are far better left alone. At Walsall all the blocks have been made with two "Winget" standard machines, served by one chain-spade mixer, and the result has won the highest praise from the numerous bodies of municipal authorities who have visited the scheme from various parts of the country.

From its inception the whole scheme has been carried out by the borough surveyor, with the aid of a capable staff, of which Mr. W. H. Booth is the chief architectural assistant, the clerk of the works being Mr. S. G. Wilson. At present the Council has 450 new houses in hand, the great majority of which are being built on the Bloxwich site, which has a gravel sub-soil 30 ft. deep, and lies on high ground to the north of the town. About 120 of these houses are being built by direct labour. A smaller estate is being developed on the West Bromwich Road.

Some 50 per cent. of the houses on the Bloxwich site—those in brick as well as those in concrete blocks—are of the Ministry of Health "B" type, with three bedrooms each. Besides the usual parlour and scullery, a really good sitting-room serves as the nucleus of the house plan. This last was planned with 180 sq. ft. floor space before the Ministry of Health, owing to increasing costs, reduced the maximum space allowed to 160 ft.; and, as a special concession, due to the economical methods employed at Bloxwich, the Walsall Borough Council has been permitted by the Ministry, whose Regional Commissioner for this area is Mr. H. E. Farmer, F.R.I.B.A., to complete its scheme on the same generous lines. The sitting-room is also provided with a large cupboard, which, with two drawers and flat top, serves as a fixed sideboard. Each bedroom is big enough to take a double bed and a suite of furniture. In the largest bedroom there is room for a cot as well. Other features include a hot closet for airing clothes, and other useful cupboards in the bathroom.

A Land Settlement Scheme.

The Ryecroft Farm Land Settlement Scheme—one of the first of its kind to be approved by the Ministry of Health—has also been organised by Mr. Taylor, with the same staff, for the borough of Walsall. The site is pleasantly situated on the Bloxwich Road, about a mile out of the town, and covers some nineteen acres. Nine pairs of cottages have been built, each facing a newly-made road. Each holding is approached from the roadway through a double gateway along a side road to the house, stable, etc. At the rear of each cottage, and separated from it by a fowl-run 50 ft. long, is a roomy farm building comprising a stable for either horses or pigs, an implement and fodder store, with boiler and flue, and also a fowl-house with roost above.

The cottages are of substantial construction, with internal hollow walls of

PAIR OF CONCRETE BLOCK HOUSES AT WALSALL.

local red brick, and roofed with hand-made tiles. On the ground floor is a tiled entrance-hall leading to a parlour and a commodious living-room, a scullery with boiler and sink, and a well-ventilated larder. Upstairs is a compact landing leading to three good bedrooms, a bathroom, and a linen cupboard. The bathroom is fitted with full-sized bath and lavatory basin, to both of which there are hot and cold supplies. A closet containing the hot-water cylinder forms an airing cupboard in the bathroom. The cottages are lighted throughout by gas, which is also laid to supply a gas cooker in the scullery.

Law Report

Architect's Claim

Norfolk and Prior v. Pilmore Bedford.

Official Referee's Court. Before Sir Francis Newbolt

This was an action by the plaintiffs, architects and surveyors, of Station Buildings, Catford Bridge, who claimed from the defendant, Mr. F. Pilmore Bedford, £347 for fees in connection with a garage in Bromley Road, Catford.

Mr. J. B. Matthews, K.C., was for the plaintiffs, and Mr. Hollis Walker, K.C., for the defendant.

Mr. Matthews, in opening the case for the plaintiffs, said that Messrs. Norfolk and Prior were well-known architects and surveyors, and the action was brought by them in regard to the construction of a garage in the Bromley Road, Catford. The main grievance developed in the pleadings was that the place ought to have been so constructed as to be capable of carrying a weight of 4 cwt. per foot super. on the roof as well as on the ground floor. The defendant denied that the plaintiffs had done the work in respect of which they claimed, and a long correspondence had taken place between the parties in regard to the matter. The defendant bought a piece of land at the corner of the main road and a side road with a view to constructing a motor garage, and the County Council gave permission for the construction of a 13-ft. building. Application was, however, made to the County Council for permission to raise the building to 20 ft. The reason why the original 13 ft. was fixed upon was that a higher building would obstruct the light of two adjoining houses. That difficulty was, however, got over by the defendant buying the two houses. When this thing was first put in hand, the defendant, who was himself something of an engineer, first of all got into touch with the people who subsequently became contractors for the steel work, and they introduced him to the people who became the builders and contractors, and it was not until he had fixed up about them that he introduced the matter to the architects (the plaintiffs). It was brought to them in April, 1918, and they were asked to get out the drawings. At that time it was proposed to have a sloping roof. What they called the workshop floor was a kind of gallery, and when the County Council gave permission to raise the building to 20 ft. the roof was changed to a flat roof, and from time to time as the work progressed the defendant's ideas in regard to it seemed to change. It was originally intended that there should be no machinery of any consequence, but as the work developed new ideas came, and it was required that the workshop floor should be capable of carrying heavy machinery, necessitating stronger flooring. Then the idea was to alter the roof. The original idea was to provide a tennis court on the roof, but having bought 100 and 102 Bromley Road defendant conceived the idea of having a lift constructed to raise cars to the roof, if necessary. Then the idea came that he might like to raise the building another storey, which would necessitate a stronger roof. Counsel did not think the County Council would have sanctioned the building of another storey on a structure constructed for one floor only. However, defendant wanted the flooring of the roof to be of the same carrying capacity as the workshop floor. The plans submitted to the County Council were for a workshop floor, and a roof which was a mere roof and nothing more. The defendant, while the work was in progress, was developing idea after idea, and even after the steel construction was in progress the new idea of making the roof strong enough to carry another floor was sprung upon the plaintiffs. They were asked to provide a roof with a carrying capacity of 4 cwt. to the foot super. Defendant said that the correspondence disclosed the fact that the roof was to be strong enough for present and future use, but he (Mr. Matthews) contended that "future use" was far too vague, and did not convey the impression that the building was to be used as defendant now said he wanted to use it. The plaintiffs were claiming their ordinary fees, but the defendant charged them with negligence in regard to a number of small matters, and made a heavy counterclaim for work which he said it had been necessary for him to do in consequence of such negligence. His counterclaim included a claim of £400 for loss of profit consequent upon delay, but plaintiffs denied that they were responsible for any delay that had taken place. Defendant estimated his loss on a turnover of £4,000, upon which he said he would have made a profit of 10 per cent. It was a new business, for the creation of which he was having the new building erected.

Counsel then read a voluminous correspondence between the parties, in the course of which he said that the defendant got the rough plans from the plaintiffs and used them, as having been made by a friend, for the purpose of making contracts and putting the work in operation.

Mr. Edward Albert Stone, a member of the firm of Norfolk and Prior, and an architect of some twenty years' experience, whose examination and cross-examination occupied over two days, gave evidence as to the manner in which the defendant first introduced the subject of the building to him, and the result of negotiations which followed. He said he instructed Mr. Hopkins, an architect of considerable experience, in the employment of the firm, to get out the necessary plans for the London County Council, and those plans were subsequently used by the defendant for the purpose of obtaining contracts from the builders and the foundry company who supplied the steel work. He said he received instructions to superintend the construction, and generally bore out the statements of his counsel.

Several witnesses were called in support of plaintiffs' case, and while defendant was under examination the Referee called attention to the fact that that was the fourth day of the trial, and that the hearing was costing something like ten shillings a minute, which one or the other of the parties would be called upon to pay. He did not, he said, mention this with a view to restricting the action of counsel, but in order that they might save time as far as possible.

The Referee, in giving judgment, said that the defendant was expecting to get a building stronger than either the contractor or sub-contractor were aware of. He could not expect the plaintiffs to do work for nothing, and no definite instructions were given to the plaintiffs that the steel must be of any particular strength or be able to carry any special weight. In his counterclaim defendant made several complaints as to the work, but if some defective work had been done by the builder the plaintiffs could not be held responsible for it, as it was admitted that no improper certificate had been given. He found that the plaintiffs had not been guilty of negligence, and that no damage had been proved by the defendant. The Referee, dealing with the question of costs, pointed out that the case might have been sent to the Official Referee a year ago, and expressed an opinion that the lapse of time had rendered the evidence unduly long. In the result he said that after careful consideration he had come to the conclusion that there must be judgment for the plaintiffs for £347 1s. 6d., and the counterclaim would be dismissed. The plaintiffs would have the costs of both claim and counterclaim.

Thornhill's Paintings at St. Mary Abchurch

At a time when monuments of the past are being obliterated a discovery such as that lately made in St. Mary Abchurch is especially welcome to those who would preserve our City churches. About eighteen months ago the church was found to be in a most precarious condition, owing to decay of large roof timbers.

Not being one of the condemned nineteen City churches, the rector and wardens, on the advice of Messrs. George Hubbard and Son, architects, decided to undertake the work of restoration, and this included the removal of a large dragon-tie supporting the north-west corner of the roof. This somewhat hazardous task, described in an illustrated article in our issue of January 19, was successfully accomplished without any damage to the painted plaster of the dome.

Upon close inspection of this painting, which appeared to be of the highest merit, it was decided to supersede the old system of lighting, by placing 110 electric lights and reflectors behind the plaster cornice, from which the dome rises. The effect of this has been to reveal the whole of the painting, which has never been clearly seen since Sir Christopher Wren completed the church over two centuries ago.

The artist, Sir James Thornhill, born 1676, has depicted around the base of the dome, between the lucarne lights, a series of figures representing the heavenly virtues and graces, and above the painted cornice is seen a winged choir, singing praises to the name of Jehovah, appearing in Hebrew characters, at the summit of the dome. This well-composed group includes the figures of St. Cecilia playing her organ and David his harp.

Thornhill, who became the father-in-law of Hogarth, is more renowned for his work at Blenheim Palace and Greenwich Hospital: and he undertook to paint the cupola of St. Paul's for Queen Ann at 40s. per square yard. St. Mary Abchurch, which also includes the work of Grinling Gibbons, is internally one of Wren's noblest compositions.

Societies and Institutions

Architectural Association of Ireland.

At a meeting of the Architectural Association of Ireland, held under the chairmanship of the president, Mr. J. C. Dewhurst, A.R.I.B.A., Mr. Arthur Pearson, a member of an Irish firm of ornamental ironwork manufacturers, gave an excellent illustrated lecture on the development of ornamental ironwork during the eighteenth century. A vote of thanks to the lecturer was proposed by Mr. H. G. Leask, M.R.I.A.I., seconded by Mr. Lucius O'Callaghan, president R.I.A.I., and supported by Mr. L. F. Giron, M.R.I.A.I.

Proposed New Architectural Association.

For some time many architects have felt that there should be a Berks, Bucks, and Oxon Architectural Association. The Council of the Reading Society of Architects considered the matter at a recent meeting, and it was proposed to invite all architects in the three counties to attend the next general meeting of the Society to discuss the formation of such an association. This meeting will be held on Wednesday, April 6, at 3.30 p.m., at the Chamber of Commerce meeting room, 156 Friar Street, Reading. Mr. MacAlister, secretary of the R.I.B.A., will be present and explain the object, and the best way of forming such an association. The Council of the Reading Society of Architects invite all members of the profession in the three counties to the meeting.

Birmingham Architectural Association.

Captain G. Salway Nicol, F.R.I.B.A., read a paper entitled "The B.A.A. Excursion to Bourges" before the last general meeting of the session of the Birmingham Architectural Association, held under the chairmanship of the president, Mr. H. T. Buckland, F.R.I.B.A. Captain Nicol said that people often wondered why architects travelled long distances and spent their leisure in studying such old buildings as the Gothic cathedrals, which seemed to have no relation to present-day problems. The view that making sketches of these old places was but an innocent hobby was too superficial. A great building such as St. Etienne at Bourges was probably one of the finest flowers of human civilisation. The lessons to be learnt from such buildings would bear fruit when the materialism of the present day was shaken off, and it was their duty, in the meantime, to keep alive their appreciation and respect for the great achievements of the past.

The architects who journeyed from Birmingham to Bourges in the early summer of last year combined the delights of living in a fairly modern town with sketching the many examples it contained of buildings of various ages. The cathedral, which naturally formed the chief attraction of the pilgrimage, had an interior of five lofty compartments, arcaded and vaulted in stone with that skill and grace for which the masons of the thirteenth and fourteenth centuries were so famous.

No finer opportunity for the display of stained glass could be found than the three continuous clerestories of Bourges, which stretch without any interruption from west to east. The plan was based on the simple lines of a Roman basilica. The whole of the windows were unfortunately not glazed with the original glass, but a considerable proportion remained and enabled it to vie with Chatres in this glorious possession. Such a pilgrimage was always too short, but one returned with delightful memories, and with a number of sketches which would never let one forget the circumstances under which they were made. Captain Nicol illustrated his paper with many water-coloured drawings, sketches, and photographs made during the visit, and also with a number of lantern slides.

Correspondence

Architecture and Commerce

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It is a rare occasion when we are graced with a word from the gifted president of the Architectural Association, Mr. G. Gilbert Scott. His letter in a recent issue of your journal will, I am sure, be widely appreciated.

Our haphazard architectural methods have certainly been given a fair trial with dismal results, so that we cannot fail to look forward in the near future to the emulative results due to the team work of the several architectural schools which have now, fortunately, become well established in this country.

It seemed to me that the recent exhibition at the Royal Academy of the competitors' work for the Rome Scholarship showed an amazing advance on recent years, and this immediately following the interval of the great war. There was every evidence of an awakening, a great keenness in effort stimulated by the competitive work of the two great schools working under the able direction and enthusiasm of such men as Professor Reilly and Mr. Robert Atkinson.

It is true there was similarity of general outline and conception in some of the designs, but surely this is but only natural in the early stages of a revival of this character; notwithstanding this, strong individualism was evident in the majority of the designs, and such a strength cannot fail to assert itself and rise above the general level, which will also, under the influence of the collective efforts of these schools, be raised.

Mr. Goodhart-Rendel has quite recently given us a little "talk" about contemporary British architecture, in which he spoke of the decay of ecclesiastical architecture. I question very much whether this is a correct statement to make when we still have with us Mr. Gilbert Scott himself carrying on the traditions and development of Gothic architecture. The flame of that great revival is not yet quenched, and cannot be when such men as Bodley, Temple Moore, Tapper, Spooner, Brierley, and others show that the spirit of Gothic is still with us alive.

HUBERT M. FAIRWEATHER.

The April "Architectural Review"

A particularly attractive feature of the forthcoming number of the "Architectural Review" will be a colour-plate reproducing one of William Walcot's latest and most delightful works, a water-colour sketch of the entrance gate of Christ Church, Oxford. The article on Japanese architecture, begun in the March issue, will be concluded in this, and the contents will also include an article on Soane by Mr. Beresford Chancellor and one on the craftsman's part in the classic revival by Mr. Arthur Keen.

Trade and Craft

Lifts at the Newington Sessions House.

At the new Quarter Sessions House for the County of London—the subject of an illustrated article in our last issue—there are two electric passenger lifts, one for the use of the public and one for the justices. These lifts, supplied by Messrs. Waygood Otis, Ltd., are arranged to take a load of seven persons at a speed of 200 ft. per minute. Each lift is fitted with a worm-and-wheel winding machine, fitted overhead, and driven by a motor specially designed for lift service, rated at 10 h.p. The company's standard electrical controller is provided to give smooth and gradual starting and stopping, and is operated by a switch in the car, with a self-centring handle. The cars are of English oak fitted with safety gear which is operated by a special governor designed to come into operation in the event of the car attaining an excessive speed on the downward journey. The guides for the car and counter-balance weight are of round turned steel, and the patent electrical and mechanical locking gear fitted to the landing gates is designed to prevent the lift being started unless the gates are shut, and to prevent the gates being opened unless the car is opposite. A flash-light position indicator is provided on each floor with a series of lamps and special controlling gear, so as to show in the indicator on each floor the position of the car in the well-hole at any particular time. The company have also fitted two electric coal and service lifts, to take a load of 3 cwts. at a speed of 110 ft. per minute. The cars are of angle-iron frames filled in with oak. The lifts are operated on the automatic system, with set of pushes on each floor so that the car can be sent from any floor to any other floor, stopping automatically on reaching the floor level. An electric flash-light position indicator is provided at each opening to show the position of the lift.

A Fine Coat of Arms.

The coat of arms illustrated on page 389 was specially modelled in plaster by Messrs. G. Jackson and Sons, Ltd., to the design of Mr. W. E. Riley, F.R.I.B.A., official architect to the London County Council.

"Berger's Mercury."

"Local Colour from Durban" and "Good as Gold," by A. F. Easton; "Looking Ahead," by C. H. Eves; and "Advertising by Aeroplane" are among the articles appearing in the current issue of "Berger's Mercury." This interesting magazine, first issued in September, 1914, is published by Messrs. Lewis Berger and Sons, Ltd., of Homerton, London, E.9, maker of colours, paints, and varnishes.

"Installation News."

The current issue of "Installation News" contains a valuable article on "Technical Literature," by Mr. S. Rentell, A.M.I.E.E., one on "Installation in Houses," by "Argent," and a large amount of practical and other information. "Installation News" is edited by Mr. S. Alexander, and published by Messrs. Simplex Conduits, Ltd., of Garrison Lane, Birmingham. The name of this firm, it is announced, has been added to the King's National Roll. Over 33 1-3 per cent. of the male staff and workers are ex-Service men, and well over the required 5 per cent. for inclusion in the King's Roll of Disabled Men are employed by the company.

The Week's News

Housing at Truro.

Thirty-four houses are to be built by the R.D.C.

Housing at Pershore.

The R.D.C. propose to erect eighty-two houses in various parts of the district.

New Hospital for Bakewell.

The U.D.C. are seeking a site for an isolation hospital.

Housing at Market Bosworth.

The Ministry of Health have sanctioned a loan for the completion of the Ibstock houses.

Ravensworth Castle.

Ravensworth Castle, near Lamesley, County Durham, is to be opened as a residential school for girls.

Hemsworth Rural Housing.

The R.D.C. have accepted the tender of the Building Guild, Ltd., Manchester, for the erection of 148 houses at Ryhill.

Housing at Castle Donington.

A site upon which to erect twenty-four houses of the parlour type has been purchased by the R.D.C.

Housing at Holywell.

The Ministry of Health have sanctioned the expenditure of £21,300 for new houses at Greenfield (Holywell).

Sham Castle Sold.

One of the best-known landmarks in the West of England, Sham Castle, which crowns the lofty wooded height overlooking Bath, has been sold.

Hove Pier Scheme.

The project for a pier at Hove, suspended during the war, has now been revived, and the Board of Trade has been approached on the matter.

The Licensed House Competition.

The exhibition of designs submitted in the competition for a licensed house, promoted by the Worshipful Company of Brewers, will be reopened on Wednesday, March 30, and close on Saturday, April 2.

Liverpool Examination Results.

The following results are announced of the March examinations of the University of Liverpool: Faculty of Arts Certificate in Civic Design, Class I., Messrs. S. O. Hill and E. Reily; Class II., Mr. C. E. Azurdia.

Change of Address.

The Indented Bar and Concrete Engineering Co., Ltd., have secured a more commodious suite of offices on the first floor of the same building in which their offices are at present situated—namely, Queen Anne's Chambers, Westminster, S.W.1.

Welshpool Water Supply.

The T.C. have decided to instruct Mr. Weaver, a Chester engineer, to prepare plans and estimates for a new high service reservoir near Castle Caereinion and a new pipe line to the town three miles distant. Mr. Weaver is also to prepare plans and estimates for raising the dam of the existing reservoir.

New Reredos for St. Andrew's, Newcastle.

It is proposed to erect a reredos above the high altar in St. Andrew's Church, Newcastle, in memory of its late Vicar (Canon Lister). It will be of carved oak, and consist of three painted panels representing St. Peter, St. Andrew, and the Resurrection. There will be four carved figures of St. Aidan, St. Oswald, St. Cuthbert, and St. Hilda. The architect is Mr. W. H. Wood, F.R.I.B.A., of Newcastle and Durham.

Northampton Contractor's Will.

Mr. R. Finnegan, of Northampton, contractor, who built the promenade and sea wall at Blackpool, the electric tramways at Great Crosby, and executed many contracts for the London and North-Western Railway, left £65,373.

Carlisle Housing Schemes.

Over thirty houses have been completed in the Denton Holme district, and forty-two are in course of erection at Stanwix. Altogether seventy-four houses are to be built at Stanwix, and the Council have approved the acceptance of tenders for the erection of 125 houses on the Long Sowerby site, which is being laid out to accommodate 250.

Cannock Rural Housing.

Twenty-six houses are roofed in at Bushbury, six houses are in course of erection at Brewood, and two at Penkridge, and twenty-four roofed in and six occupied at Great Wyrley. Eight houses have been commenced at Cheslyn Hay and eighteen at Huntington. A new site capable of accommodating ninety houses has been secured.

St. Albans War Memorial.

The west window of St. Albans Cathedral is to be filled with a stained-glass design, in which will be represented a British infantryman in khaki and a British sailor. Both will be in kneeling postures, in the company of some of the warrior-saints of old—St. George, St. Alban, and Joan of Arc, for example. The window will be a memorial to the men and women of the St. Albans diocese who died in the war.

R.I.B.A. Visit Westminster Hall.

The renovation of the roof of Westminster Hall, which has been in progress since 1914, and is now nearing completion, has been visited by a party of members of the R.I.B.A. Sir Frank Baines, under whose direction the work has been carried out by the Office of Works, explained the details of the renovation. Tons of steel yet remain to be carried to the roof from the floor below by means of electric machinery.

New Bridge for Nottinghamshire.

A reinforced concrete structure is to replace the picturesque old Muskham bridge of trestles which has carried the Great North Road over the Trent since 1652. The new bridge, which will cost nearly £50,000, has been designed by Mr. J. C. Haller, the county surveyor, and the constructional work will be carried out by Messrs. Walter Scott and Middleton, Ltd., of London. The total length will be about 300 ft., and there will be two spans of over 100 ft. each, supported by a massive stone pier in the centre of the stream.

Queensbury War Memorial Competition.

The Competitions Committee of the R.I.B.A. desire to call the attention of members and licentiates to the fact that the conditions of the above competition are unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime members and licentiates are advised to take no part in the competition. The Society of Architects requests members to take no part in the competition without ascertaining that the conditions have been approved by the Council.

Huddersfield Council and the Ministry.

The Huddersfield T.C. have unanimously adopted the following resolution: "That this Council emphatically protests against the long and tedious delays of the Ministry of Health in coming to a decision as to whether to approve or otherwise of tenders for the erection of houses submitted for approval by local authorities, and respectfully suggests that the District Housing Commissioners should be empowered to give or withhold such approval, inasmuch as the present system causes local authorities very considerable unnecessary trouble and expense without a corresponding increase in efficiency and promptitude. That a copy of this resolution be forwarded to the Prime Minister, the Minister of Health, and the borough member."

National Federation of House Builders.

At the conference of the National Federation of House Builders, held at the Midland Hotel, Birmingham, under the presidency of Mr. H. M. Grant, the following resolution was adopted, on the proposal of Mr. Robinson (Grimsby), seconded by Mr. Brown (Manchester): (1) That the housing policy of the Government should be reorganised and based on a definite and equal grant to all agencies building houses. (2) That the D.B.M. should be closed and the stock of materials disposed of, all orders cancelled, and all control of prices discontinued. (3) That drastic powers should be taken to deal with trade combines which force up prices. (4) That a manifesto embodying these points with a reasoned statement advocating their adoption should be sent to the Government, the two Houses of Parliament, and the Press.

Artistic Development of the City.

In the Court of Common Council Mr. Deputy Millar Wilkinson asked the chief commoner if his attention had been called to the articles and letters in "The Times" with reference to the establishment of a committee of taste or a ministry, or some other authority, to deal with the artistic aspect of the City, and if he could give any information on the matter. Mr. J. R. Pakeman, C.B.E., answering the question in the absence of the chief commoner, said that the Corporation's attention had been called to this subject long before the articles appeared in "The Times." In July last Mr. Deputy Bird moved the following resolution: "That it be referred to the City Lands Committee to consider and report to this Court as to what steps should be taken for the artistic and architectural development of this city and for the preservation and permanent indication of premises of antiquarian and historical importance." The Court agreed, and the matter was now under consideration by the City Lands Committee. The present chief commoner and the city surveyor, continued Mr. Pakeman, were both members of the council of the R.I.B.A., and were in touch with that important authority with regard to the point raised. The City Lands Committee had already received a deputation from the Institute with reference to a branch of this most important subject. Mr. Millar Wilkinson could rest assured that the Corporation had the matter well in hand.

Wednesday, April 6, 1921 Volume LIII. No. 1370

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

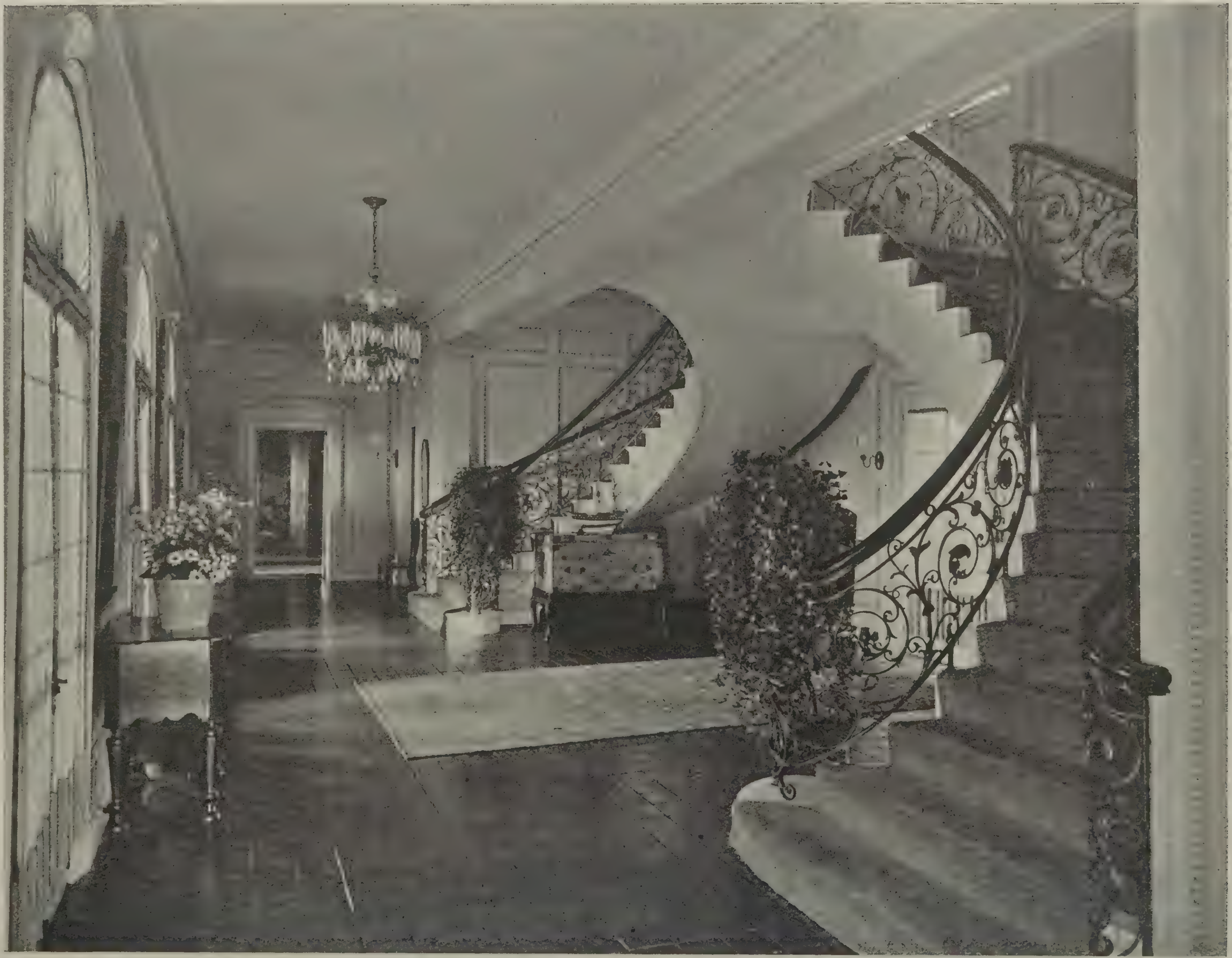
SIR BALTHASAR GERBIER, BARON D'OUVILLY.

Gerbier (a Flemish painter, architect, and political agent—c. 1592-1667) came to England about 1613, entering the service of the Duke of Buckingham. Knighted by Charles I. in 1641, he succeeded Inigo Jones as surveyor of the Royal palaces. He retired for a time to Holland, but returned to England later, designing the triumphal arches for the reception of Charles II. He wrote an Encyclopædia of Art, and, at the time of his death, was engaged on the great mansion at Hampstead Marshall for Lord Craven.

27-29 Tothill Street, Westminster, S.W.1.

Modern American Architecture. 17.—Hall and Staircase in a House at Southampton, Long Island

Cross and Cross, Architects



From the spectacular point of view there is nothing in the whole range of architecture more arresting than a well-designed double staircase. In the present instance the architects have taken full advantage of the opportunities offered for a design of this type. The staircase ascends in continuous symmetrical flights, which delight the eye with the beauty of their converging curves.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, April 6, 1921 Volume LIII. No. 1370

Canberra: A Lesson in State Interference

IN a preliminary notice of an architectural competition for the laying-out of an Australian Federal capital city at Canberra, New South Wales, we recorded the statement of the Minister for Home Affairs of Australia that it would probably be two years before the construction of the new city would be "seriously undertaken." That was in February, 1911. In a publication dated February 8, 1921, Mr. Walter Burley Griffin, the architect who won the competition, explains to the world why he cannot get on with the work.

A very slight outline sketch of the Canberra scheme will serve to explain to the new generation which has grown up during this interval of ten years, and to recall to those other persons for whom the lapse of a decade may imply a slight impairment of memory, by what successive stages the present unfortunate situation has been reached. From this necessarily brief recital it will be only too easily seen that the original grandiose scheme, conceived by the State in a fit of megalomania, was foredoomed to failure. A project that is dogged at every turn by State meddlesomeness and ineptitude never anywhere or at any time has much chance of coming to a successful issue; and it would seem that Australian bureaucracy is of a very rank and obnoxious variety.

An incredibly stupid false step taken at the very outset showed that the State had no very clear notion of what it was about. It at once became obvious that the Federal Government were much more intent on asserting their authority than on addressing themselves earnestly to the adequate fulfilment of the task they had undertaken. They deliberately entrenched themselves in obstinate opposition to the organised architectural opinion of all countries, and all efforts to dislodge them have failed utterly. The initial error fructfied quite normally. Thistles do not commonly bring forth grapes. A cablegram appearing in "The Times" of April 16, 1912, stated that "The designs for the Federal Capital have been reduced to a dozen, most of them the work of Americans, Frenchmen, or Germans," and it was added that the British architects had but a small chance—a misleading statement that was promptly exposed by Mr. Ian MacAlister as secretary to the R.I.B.A., who, in a letter to "The Times," remarked that, while the natural inference from the message was that British competitors had been outclassed by foreigners, the plain truth was that organised architects of the Empire did not compete. They had excellent reasons for this abstention. They loyally supported the decision of their representative associations that the conditions were unsatisfactory. Immediately on the publication of those conditions the Australian Institute of Architects protested against their unfairness, the particular ground of objection being that there was no proper provision for the appointment of assessors acceptable generally to the architectural profession. Suggestions for rectifying the conditions were put forward, but the Minister of Public Works refused to adopt them. Then (Mr. Ian MacAlister's expressions are being quoted) "The Royal Institute, which entirely agreed with the attitude of the Australian Institute, endeavoured, both by correspondence with the Minister and by deputation to the Acting High Commissioner in London, to induce the Australian Government to put the competition on a fair and proper basis. The Minister again refused to alter the conditions in any way, and the Royal Institute supported the action of its affiliated societies in Australia by issuing a veto to its members against the competition, and by informing the American Institute of Architects and the principal architectural bodies on the Continent of the action which it had taken in the matter."

In spite of these protests the Federal Government resolved to have their own way. They carried out their banned competition to the bitter end. The banned competition was held, and Mr. Walter Burley Griffin, of Chicago, was awarded the first premium of £1,750. The second and third premiums went respectively to a Finn and a Frenchman. Mr. Griffin was then thirty-five years old, and had practised architecture in Chicago since 1899. A description of his designs for the Australian capital city at Canberra may be consulted in our issue of July 10, 1912. Will they be carried out? Not as he conceived them. Further serious trouble began quite early in the proceedings. In 1912, the Australian authorities having become possessed of the premiated designs, and having purchased a further design by an Australian architect, considered that it was only necessary to hand these to a Departmental Board with full powers to do what they liked with them. This misguided activity would certainly have broken the heart of a less sturdy man than Mr. Burley Griffin. He, however, when invited, in 1913, by the Departmental Board, to go to Australia to help them out of the muddle, loyally obeyed the call, forsaking his private practice in the higher interests of his art. As his exceeding great reward, he has now been "fired" from his position of Director of Design and Construction. That is to say, it was intimated to him that his term of office would not be renewed after it had run out.

Why? A Royal Commission appointed to investigate a charge that the work entrusted to Mr. Griffin had been systematically obstructed found that necessary information and assistance were withheld from him, and his powers were usurped; that he and his office were ignored, and his rights and duties under the contract were denied; that attempts were made to set aside his design and substitute the Board's design; that in the Board there was a combination hostile to Mr. Griffin and his design; that the Ministerial policy was directed against the carrying out of Mr. Griffin's design. Mr. Griffin, in his statement to the Prime Minister of the Commonwealth of Australia, reaffirms this very serious allegation. "One clause of your memo.," he writes, "implies that the Commonwealth has covered, and more than covered, its legal obligations to me. But there is the matter of equity, of honour—even, it may be said, of honesty. The above-quoted finding of the Royal Commission leaves no doubt that past Governments, countenancing and using official intrigue, deliberately prevented me from carrying out my contract. The finding and the facts place it beyond doubt that, so far from having dealt generously by me, Governments of Australia have, for purposes of political policy, taken advantage of their power to prevent the carrying out of the contract entered into in an honourable spirit on my part." He complains that the energies of his meagre staff were frittered away in meeting manufactured difficulties and deliberate obstruction; and he has vainly expressed his willingness to work with a properly constituted Advisory Committee.

We do not care to go any further into the more sordid details of this melancholy case. Mr. Griffin's hard luck excites sympathy, little as he may seem to deserve it after his entering a competition that he knew to be under the ban of his organised fellow-architects; for it is fairly evident that Canberra has been always made the football of rival politicians, and that since the war the proposal to increase the amount of money to be spent on it has become an extremely unpopular idea. Political expediency is the curse of State and municipal building. That, we think, is the real moral of Canberra; and we have dealt with the case at some length not because of its personal aspects—though they are to a certain degree interesting and important—but because of the much larger issue of the effects of State control. Not that we are in a position to hold up the Australian Government to reprobation. There is no need to go to the Antipodes for shocking examples of State interference with architecture and art generally. Our Royal Courts of Justice—and, in fact, nearly all our great public buildings—are so many monuments to State meddlesomeness and ineptitude; and to-day there is apparent a strong disposition to relapse into this deadly "original sin" of subordinating art, ethics, and even hygiene, to sheer political expediency. Organised architects and builders should unite for the suppression of this vice of States.

The Coliseum at Rome

An amazing thing has happened to the Roman Coliseum. It has been let to a dramatic company, who are permitted to give performances there for one month in each year. They will pay no rent for it, but they are to give one free performance. This is a Government bargain, and is likely to be opposed strongly by the Municipal Council, who are fervently supported by the Italian newspapers. Most of the objections seem to be based on practicality rather than on sentiment. It is proposed to install electric lighting in the venerable ruin, and this can hardly be done without danger and damage to so old a fabric, for the amphitheatre was founded by Vespasian, A.D. 72, and completed by Titus in his eighth Consulate, A.D. 80. Who was the architect? Some say his name was Gaudentius, others that it was Aterius. The building was originally of four stories—the lowest, of the Doric Order, 30 ft. high; the second, Ionic, 38 ft.; the third, Corinthian, also about 38 ft.; and the fourth, also Corinthian, 44 ft. high. The long diameter is 658 ft.; the shorter, 558 ft.; the arena, 298 ft. by 177 ft. in its widest part. It was, of course, the scene of many gladiatorial combats and of the most atrocious barbarities to man and beast, and sometimes the arena was flooded for naval shows. It is stated that the amphitheatre seated eighty-seven thousand persons, and gave standing-room for thirteen thousand more. Superstitious persons will see in this threat to the stability of the Coliseum (some pedants prefer to spell it Colosseum) a forewarning of the end of the world. For did not the Venerable Bede prophesy: "While stands the Coliseum, Rome shall stand; when falls the Coliseum, Rome shall fall; and when Rome falls, the world." But two-thirds of the building disappeared long ago; and the palaces of St. Mark, the Farnese, and the Barberina, are said to have been entirely built from its ruins. At any rate, it is to be devoutly trusted that the people of Rome will succeed in preventing what remains of the building —"a noble wreck in ruinous perfection," Byron called it in "Manfred"—from being turned to base uses. We had as lief hear that the volatile Greeks had decided to turn the Parthenon into a picture-palace.

The Coal Crisis

About the coal crisis it is too early to say much. May it end very soon! is the prayer of everyone who realises how tremendous are the issues it involves, and how profoundly grave are the developments that may arise. Although the building industry is not affected to nearly the same degree as the manufacturing industries that directly depend on power derived from coal supply, yet builders are the first to feel the effects of trade depression. To what depths general trade is about to be depressed by the calamity at which the miners are insanely aiming depends largely on the ability with which the situation is handled by the Government, whose little game of "general post" seems curiously inopportune at the present juncture. Nevertheless, we offer no word of criticism; for in the crisis now pending it is the plain duty of every loyal patriot to refrain scrupulously from saying or doing anything that might in even the slightest degree weaken the hands of a Government confronted with the formidable task of preserving the nation from destruction. Concerning Dr. Addison's removal from the Ministry of Health we may have something more to say next week.

"Doing Things Better"

Mr. H. Gordon Selfridge ought without delay to be appointed Professor of Business Philosophy in London University. His utterances on the subject are so wise and withal so copious, that he should be provided with a special chair, pulpit, or platform, whence he could relume the subject not casually, but regularly. Failing these provisions, or any or all of them, he should certainly be made Prime Minister of the first Business Government. Returning last week from America, he was promptly interviewed by a representative of "The Times," who was fortunate in drawing from him some interesting comparisons between American and British methods of business. For example, in the States, he said, "nothing is good enough if it can be made better: the whole spirit of business seems to be conducted, and is in fact conducted, on the principle of doing things better." This principle, which is manifestly of universal application, can seldom have been more tersely put. To do things better should be the aim, the obsession even, of every artist and of every craftsman. It is only by pressing forward constantly and strenuously towards the mark that any real progress can be made—or, indeed, that retrogression can be prevented—in, for instance, the art and craft of building. It is with the object of supplanting apathy by eagerness, beauty for ugliness, that the new movement for art has come into being.

H.R.H., Hon. F.R.I.B.A.

On Monday evening, H.R.H. the Prince of Wales was nominated Hon. Fellow of the Royal Institute of British Architects. Neither the nomination nor the Prince's gracious acceptance of it is an empty compliment. H.R.H. takes much interest in the architecture of the buildings on the several large estates he controls, and of which he is in every respect a model landlord. In these respects he follows a family tradition set up by his great-grandfather, Prince Albert, of whom many memorials in various parts of the country exist in the form of model cottages, of which he suggested the very excellent design. In nominating "Prince Charming" for an Hon. Fellowship, therefore, the Institute is not going out of its way; and it does itself much honour.

Architecture, the Press, and the Public

By An ARCHITECT

ARCHITECTS will welcome with keenness, but perhaps with a feeling of pathetic surprise, the recent articles in "The Times" dealing with architecture and the design of common things.

For "The Times" to devote more than a column in the most prominent part of the paper for some days in succession to such a subject, despite the journalistic tags about "Cathedrals to sand bins," "Beauty made and marred," bv which the subject is introduced, is an event of more than common importance for architects.

The Failings of Fleet Street

Whenever in some corner of the Press, or in some obscure upper chamber, architects have written or spoken hitherto about the shabby pretentiousness of our architecture, and the lack of interest in art among the common people, such efforts have usually been ignored, or their sponsors have been regarded as impossible idealists quite out of touch with the greatest reality conceivable by civilised man—namely, the buying and selling of commodities for profit.

Hitherto the public have been served very badly by the daily Press in matters of architecture; for Fleet Street the architect might not exist, and when some curious concatenation of circumstances brings him into the limelight—we think this is the way they put it—Fleet Street does not know what to do with the poor man, so little does it understand him or his works.

Architecture is a subject that does not seem to come within the purview of the penny daily Press, although such exciting and important subjects as "the spring fashions,'' and the running form of horses and dogs are treated more or less adequately.

Literature, Music, and the Drama

The "Daily Telegraph'' has three or four well-written columns on current literature every Friday, with articles on Thursday and Saturday upon the drama and music of the day; and there is an occasional article on engineering on Monday.

The "Morning Post'' has on the average a couple of columns on literature, music, and the drama every day, with an occasional article on painting.

"The Times," with its Literary and other Supplements, together with its daily criticism of literature, music, and the drama, goes farther than its contemporaries, and is of unique value; but even in "The Times" architecture has been a neglected Cinderella.

At length the ice has been broken, and in its later if cruder journalistic manner "The Times" has provided the desired opening; and it is for us architects to see that there is no relapse into the old indifferent state of affairs.

The President of the R.I.B.A. and Sir Reginald Blomfield have already stepped in, and probably Sir Reginald's statement that "These people are up against a bigger thing than they are aware of,'' is not the least discriminating remark that has been made so far.

"Art in the Market Place"

The suggestion made by certain artists that "to improve the proportions and design of such common street objects as lampposts, letter-boxes, sand bins, railings, posters, flashlight advertisements, and the dressing of shop windows would be introducing art very thoroughly into the market place," does not echo much of the grand manner, and is not really so sound as it appears. Surely it savours somewhat of the old fallacy upon which we have been browsing for some three or four generations—that of trying by means of a hierarchy of artists and architects to impose art upon an alien civilisation; alien in the sense that artists and architects would be seeking to replace the common vernacular of life with something artificial of their own.

It is too often forgotten that the design or shape of the sand-box, the lamppost, or what not in common use is determined by the type of civilisation in which it is evolved; for the common sand-box or lamppost in question is as much the expression of the civilisation as is the literature of the time.

If the lamppost at the street corner upon which other people strike their matches is ill-proportioned it is because the civilisation in which it exists is ill-proportioned; if it be coarse in detail, it expresses faithfully the coarseness of that civilisation; if it look cheap, it is merely another ikon symbolical of a certain popular goddess of the market-place.

Committees of Taste

A few bright and cultured spirits may be able to dominate a town council sufficiently to induce them to improve the design of their lampposts, but the basis of such action is entirely artificial, being an imposition from the outside instead of something growing spontaneously out of the life of the time. As soon as the domination of the bright and cultured spirits is weakened or removed the civilisation represented in the example by the town council will revert to its wallowing. The sty may be a little cleaner, a little more orderly owing to the influence of the aforementioned bright and cultured spirits, but fundamentally it will be unchanged.

By all means let us have our Committees of Taste, consisting of artists, architects, and laymen to consider the sites for statues and fountains, to deal with street and other decorations on occasions of national importance, and to supervise and set their seal upon the design of lampposts, letter-boxes, and sand-bins, but such action is merely a scratching of the surface of things, a concentration upon effects instead of upon causes.

A Defective Civilisation

Our civilisation is based upon a wrong sense of values, and until these values are changed no bright and cultured coteries can have much effect upon the art of the country as expressed in the everyday things of life.

What is required is a change of heart and mind, which cannot come about save by prayer and fasting, and even then but slowly through three or four generations; for we can be sure that it will take us as long to get back to a sane and vital tradition as it has taken to lose it.

As long as this fundamental point is recognised and felt to be ever present at the back of our minds the course of action recommended by the articles in "The Times" should be supported unreservedly; and in connection therewith, would it not be desirable to form a strong Architectural Propaganda Committee to explain in the daily Press the general principles upon which architects work, to criticise the designs of new buildings, just as modern drama and music is criticised, and, if possible, to engender in the public a greater interest or even a passion for imaginative design in things great and small.

V. C.

[The suggestion made by our contributor in his final sentence is one that might be acted upon with advantage. Conditions are much more propitious at the moment for a movement of this kind than they have been for many years past. A well organised Press campaign, conducted by architectural bodies throughout the country, could do much to inform public opinion on the subject of architecture.—EDS. A.J.]

Architectural Causerie

"The City Beautiful"

In last week's "Punch," the clever rhymester who signs himself "Evoe" has some diverting verses—two columns of Hudibrastic couplets—entitled "The City Beautiful." The author, projecting himself into nineteen-forty-six, when the aging Prime Minister said, "'I think we ought to make a start, And render England safe for Art,' And everyone said, 'I agree,' Except Sir Frederick Banbury." Then strange things happened. "Straightway a glory took the air; New scaffoldings rose everywhere; They pulled the street façades about, And hacked tremendous pieces out; The whole of England's teeming race Had jobs of some sort round the place, While artists with stentorian tones Directed them through megaphones. . . . But when the work was half-way through, And lots and lots remained to do, And no one's pipes were re-interred, A very dreadful thing occurred: A boom began in English trade; The workmen left the hod, the spade, And turned to cotton, coals, and steel With London still in *déshabille*," and one terrible result was that "The architects were in despair: They pulled large handfuls from their hair: For London, when the job was o'er, Was even uglier than before." Fortunately, "nineteen-forty-six" is still in the offing, and the work that lies immediately to hand is that of "tidying-up," in an even less ambitious sense than that in which Professor Lethaby uses his pet phrase; for the streets of London were never (within living memory) so foully littered.

Shams!

Architects who pass along Regent Street on their way to the Institute must often have looked up at the formidable array of chimney stacks crowning the roof of the Piccadilly Hotel. The more observant may perhaps have remarked that smoke is never visibly issuing from them, attributing this deficiency to the coal shortage. In this case, however, the miners are not to blame, for we are informed on good authority that those magnificent chimney stacks are dummies with the exception of one or two which are used as ventilating shafts. It is almost inconceivable that Norman Shaw should have been guilty of such a deception. If it is maintained that these stacks were introduced for decorative effect, then we must say that in our view they do not serve even that purpose. They break up the roof line unnecessarily, besides obstructing the superb sweep of the Quadrant. We are credibly informed that at present-day prices each of these stacks would cost about £3,000 to build. We shall be surprised if they are repeated in the rebuilding of the Quadrant.

Stately Stowe

Accustomed as we have become to the partition of great estates and the sale of fine old mansions, the announcement of the projected sale by auction of stately old Stowe House, Buckingham, comes as a severe shock. Although the house is reputedly a "sixteener," its general character reflects very strongly the elegance of the eighteenth century. Vanbrugh and Kent have left their impress on the buildings, Kent treating the gardens *more suo*, and Grinling Gibbons carvings glorify the interior. The frontage from east to west extends to 916 ft., the central pedimented part being 454 ft. wide, the saloon within it being one of the finest rooms in the kingdom—oval in form, 60 ft. by 43 ft. "The cornice," according to a description written in 1825, "is supported by sixteen elegant scagliola columns of the Doric order, rising from the pavement, which is composed of the finest massa carrara marble, in squares of four feet. The columns have white marble bases and capitals," and there are eight large statues and four bronzed and gilt candelabra.

At Marcus Stone's Funeral Service

Several architects who are incidentally Academicians attended the funeral service of Mr. Marcus Stone, R.A., at St. Mary Abbot's, Kensington. Sir Aston Webb, P.R.A., was able to be present, and with him were Sir Edwin Lutyens, R.A., newly home from India, where the progress with his New Delhi buildings is slow, but sure; Sir Ernest George, R.A.; and Sir Thomas Jackson, R.A., a second edition of whose *magnum opus*, "Byzantine and Romanesque Architecture," is now in the hands of the reviewers.

The All-conquering Film

Some buildings are fated to a restless existence. Churches are turned into warehouses, palaces become museums, great mansions are transformed into flats, and opera houses are converted into cinemas. The great theatre in Cambridge Circus has had a more than usually eventful career. Designed originally (by Mr. Thomas Collcutt) as an opera house for the production of English opera (it was opened, we believe, with Sullivan's "Ivanhoe"), it was later turned into a Palace of Varieties, and has now become a "picture house." How are the mighty fallen! A similar fate, it is rumoured, awaits the Empire in Leicester Square. Is it an omen that there is to be no season of opera at Covent Garden?

A New Hospital for London

We understand that preliminary sketch plans are now being prepared for a big new hospital (Woolwich Memorial Hospital) by Messrs. William A. Pite, Son, and Fairweather. Mr. Pite, of course, is one of our leading specialists in hospital design, his works in this kind including the great King's College Hospital at Denmark Hill; the Royal Victoria Hospital, Bournemouth; and the Girls' Hospital, Barkingside, Essex. Mr. Pite, however, has not allowed hospitals to engage his attention to the exclusion of all else, many fine things in the ecclesiastical and domestic departments of architectural design standing to his credit.

Drury Lane Reconstruction

In referring last week to the proposal to erect a huge cinema theatre at Baker Street, from the designs of Messrs. Frank Matcham and Co., we made a passing reference to the internal reconstruction of Drury Lane Theatre which, we believed, was shortly to be undertaken by the same architects. We now learn that Messrs. Matcham and Co. are not associated with this work, Mr. Emblin Walker, of Kew Gardens, being the architect.

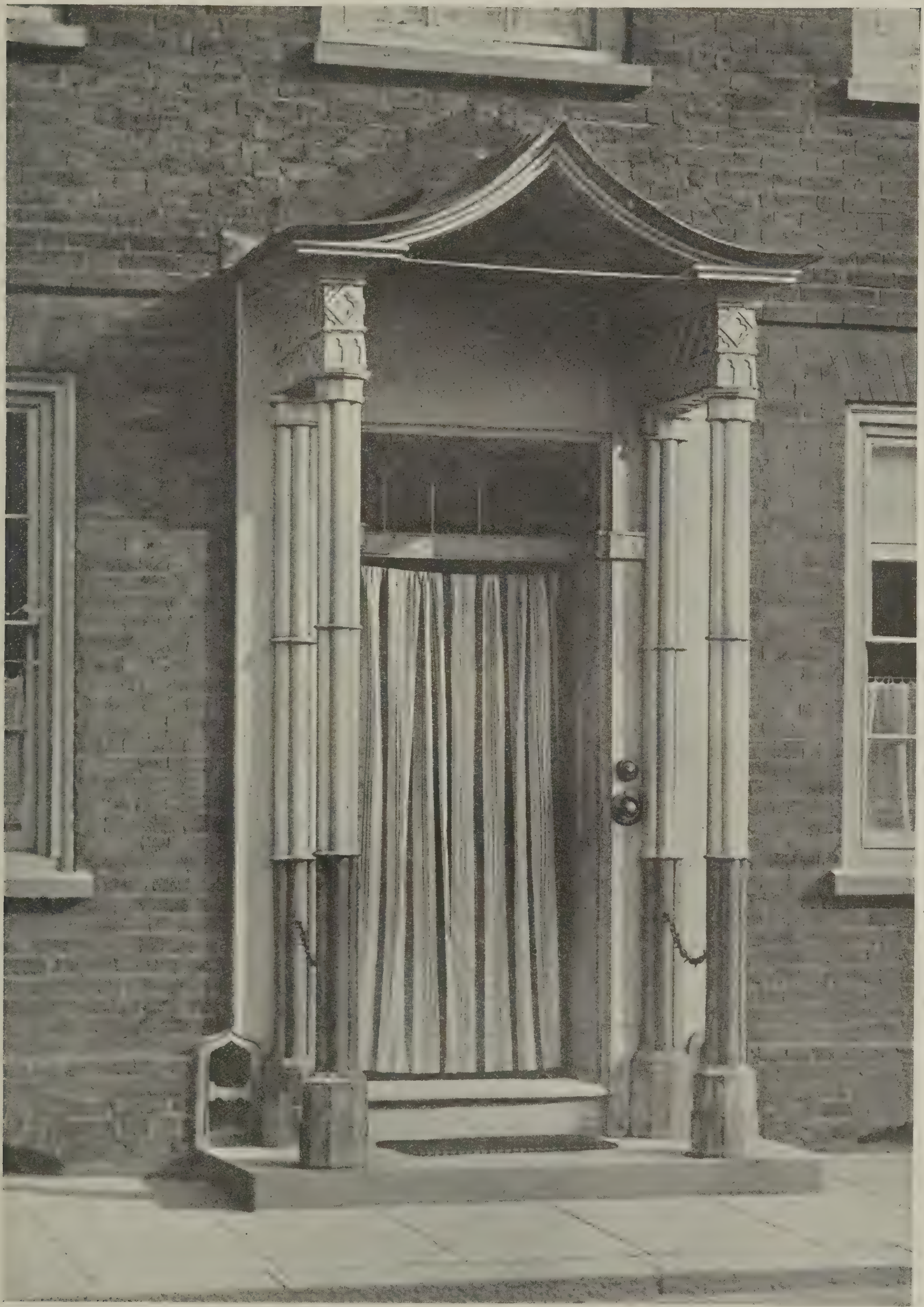
Professor Reilly leaves for America

Professor C. H. Reilly, who is acting as one of the Canadian Government's advisers in connection with the war memorial which they propose to erect in France, has left for Canada and the United States.

Big Conversion Scheme

Mr. Alfred A. Ospalak, a Westminster architect, has bought, for the sum of £500,000, the Westminster Palace Hotel, which is to be converted into offices, an auction mart, concert rooms, bank premises, cafés, and assembly rooms.

Architecture of the Eighteenth Century. 12.—Cecil House, St. Andrew's Street, Hertford : Detail of Entrance Porch



The county town of Hertford is rich in eighteenth-century brickwork. Cecil House belongs to the 1730 period, and is notable for its quaint Chippendale Gothic doorway, reminiscent of the time of the industrious Batty Langley.

Eighteenth-Century Houses at Hertford

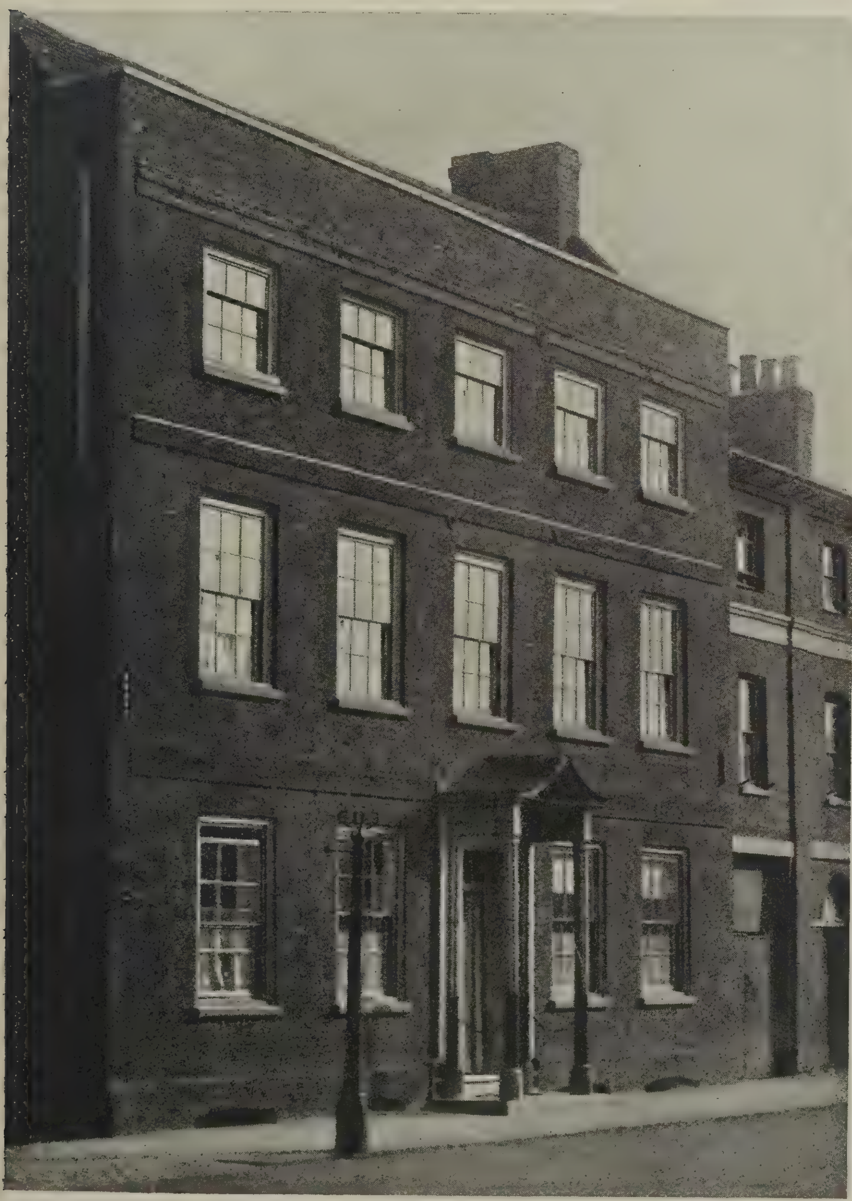
The county town of Hertford enjoys a rich legacy of brickwork which is apparent in all the streets. To the quality and colouring of the material itself must be added the whimsicalities of the old designers, who knew when to rub surfaces and when to leave them rough. There are houses of Queen Anne's time with pilaster orders and segmental pediments recalling the proportion of contemporary walnut escritoires, evidently the work of an architect carpenter, who flourished seven years before Wren's death. There is the delightfull façade and entrance to Christ's Hospital Girls' School, which must have been familiar to Charles Lamb during his peregrinations through this part of the county he loved.

In the delightful street front to the head mistresses' house, adjoining the school, is to be seen an advance in the theories of composition peculiar to the style of Isaac Ware. This building combines almost every contemporary feature of the period: we note the bay window over the porch, the semi-circular lunettes, the splayed angles, and the balancing pavilions ingeniously tied by a delicate flat band.

On the opposite side of the way stand some early nineteenth century houses, remarkable for the novel planning of the entrances and approaches, the latter arranged to form open courts between each pair. The town hall, with its giant bow windows, speaks of the Adam Brothers, and causes one to reflect on their charges for chaise hire on the two occasions of the architects' visit. What a pity the vandals were allowed to dismember the main front of the original delicate Ionic columns which gave expression to the staircase.

The Blue Boy Inn, adjacent to Christ's Hospital, shows care in its design and respect paid to the collegiate mien of its neighbour. To the west of the town, in St. Andrew's Street, is Cecil House, belonging to the 1730 period, with a Chippendale Gothic door, reminiscent of Batty Langley's time.

In addition, there are fine houses of the Greek period, some excellent eighteenth-century Gothic fantasies in the rooms of the Castle, post-houses, and weather-boardings near the canal, and shop fronts of charm. The seventeenth-century plastered houses, which are peculiarly local in character, must not be overlooked. Hertford is typical of the small towns that ring London within the twenty-five mile radius, and is particularly expressive of all phases of vernacular building, unaffected and direct in expression. Haileybury College is only a few miles away. Bayfordbury House is just outside the town, and Ware, a place of about equal importance, is practically next door.



CECIL HOUSE, ST. ANDREW'S STREET, HERTFORD.

The Future Planning of London

Mr. R. I. G. Gibbon, C.B.E., in reading a paper on "Zoning and Town Planning" before a meeting of the London Society, over which the Right Hon. the Earl of Plymouth presided, said that the notion of zoning was not very familiar in this country. Zoning was nothing more than securing that each district be put to such use as to obtain from it the largest measure of advantage in utility and in amenity, bearing in mind the existing material and social conditions.

It meant the locating of industries in areas best suited for them, and in reserving for housing districts best adapted for that purpose. It covered also the provision of open spaces of different kinds sufficient in extent and number and conveniently placed. All these things were required to be done well beforehand if the best results were to be obtained at moderate cost. There was a rich reward for foresight in these matters.

In any town of considerable size it would probably be found desirable at least to provide for different zones for residences, business, light industry, and heavy industry, and, of course, open spaces, with definite reservations for buildings of special importance such as the civic centres.

Development as a Whole.

With regard to the future planning of London, Mr. Gibbon said:

There are two facts which I think should be borne firmly in mind in dealing with any proposals as to the future of London. First, the need, in any wise plan of development, of an intimate knowledge of London's past as well as present, and of a clear understanding of the forces which have governed her growth. The second is equally important—the urgent need of further research in the conditions of town life, and the lamentably inadequate provision now made for it. There should be a plan of development for London as a whole, not, of course, a detailed plan, but one providing for the main essentials of communications and zoning—including open spaces, for which the groundwork has already been accomplished by the Society. . . . There is no power at present to enforce town planning schemes for built-up areas of land. I have no doubt that the power will come in the future; but for the moment local authorities generally will have their hands sufficiently full with plans for the open lands within their sphere of influence.

Plans for Built-up Areas.

But this is no reason why plans should not be prepared now especially for London, for the built-up areas. On the contrary, as already explained, they are urgently wanted not only to control big improvements, but also in order that, on a voluntary basis (in any event, a useful preliminary to any compulsory scheme), there may be some definite plan to which the large amount of rebuilding which is always proceeding in a live city may conform. Incidentally, this great problem is no reason why the London County Council should not town-plan the few large remnants of open land which are still left within the Administrative County. . . .

New York Zoning Scheme.

Mr. Gibbon showed some most interesting maps of the great zoning scheme of New York, the most remarkable example of zoning yet undertaken—adopted in July, 1916. Proceeding, he said: The experience already gained during its operation shows not only that it works, but that it pays in pounds, shillings, and pence, having a marked effect in preventing depreciation in values. It is significant that, when the scheme was under consideration, great business interests in Fifth Avenue, Broadway, and other streets, went so far as to insert advertisements in all the New York papers, pressing for the adoption of zoning. This New York has achieved, to her great benefit and profit: How long is London to lag behind?

Zoning Greater London.

As to the zoning of Greater London: There are a number of obvious proposals which might be discussed, such as the development of the river lands of the Lower Thames, which has already taken place to a considerable extent, and will proceed still more quickly when the present depression passes; the need of reserving suitable areas for heavy industries for which water carriage is of extreme importance; the advantage of reserving housing sites on the higher lands, so that once again the movement of population may be north and south, and so that we may have industries on the flat lands and housing on the higher lands.

Another question is to what extent, if at all, it is desirable to place any discouragement, financial or other, on the establishment of new, or the expansion of old, factories or workshops in the inner zone of London, having regard to the grave congestion of passenger and goods traffic —an attractive proposal at first sight, but certainly not to be adopted without very mature consideration, always bearing in mind that wisdom lies in not interfering with industrial development, unless a case has been fully made out for doing so.

Problem of Local Government.

We are also confronted here with a difficult problem of local government. It might be advantageous for the community as a whole for, to take an example, the London County Council to encourage large works to migrate outside its borders. But the London County Council will then lose the rateable value of these works, while possibly retaining the costly liability of providing the public services, education in particular, for the families of many of the workers. Is the London County Council, therefore, in these circumstances likely to encourage migration, however nationally desirable? This is a problem of local government that calls for solution; it is a wider problem even than I have stated, and shows how intimately town planning is knit with general questions of local administration. . . . One other matter to which I would refer is that of open spaces. London is eating up the open land. The green, fresh lungs of the giant city, the playing fields and recreation grounds, continue steadily to be consumed by the dreary miles of streets. The process will continue —and at the same time we are adding to the leisure hours of the great mass of the population . . . and immediate steps are urgently necessary with a view to providing in perpetuity for those ample open spaces which are vital if a great city like ours is to thrive and so that the good work which the City Corporation and the London County Council have already done in this direction may be extended even far beyond what has already been achieved.

Immediate Action Necessary.

The time is ripe for doing, not talking. It is high time that the reproach that this capital city of a mighty Empire has no plan should be removed. . . . A body of public-spirited men of knowledge and experience should immediately take steps to prepare, with or without the co-operation of constituted authorities, the essential outlines of a town plan for Greater London, to "main-plan," as I term it, Greater London, that is, not only to plot out the chief arteries, a work where much has already been done and excellent maps published by this Society, but also to zone the whole area. For this purpose there would be required two committees. The first a General Committee, which should be representative not only of experts, but also fully of industrial, commercial, and financial interests. . . . The second body, the Executive Committee, should be a more expert body, by which proposals to be embodied in the plan should be prepared for submission to the General Committee. This proposal is not new. On the contrary, it is simply a development of the admirable work already undertaken by the London Society. It is simply following up the labours of those pioneers of the Society to whom London owes so great a debt. You, my lord, in the letter which you issued in October, 1914, said:

"All must feel that the best is not being done with London. It has grown up haphazard; in spite of many efforts its development is still haphazard. Until there is one great uniformly-executed plan to refer to, the eighty and more local authorities who control our monster community of seven and a half million people in 700 square miles will go on each making its own changes without any sort of relation to the whole. In the London Society the nucleus of an organisation to head this movement for a plan already exists."

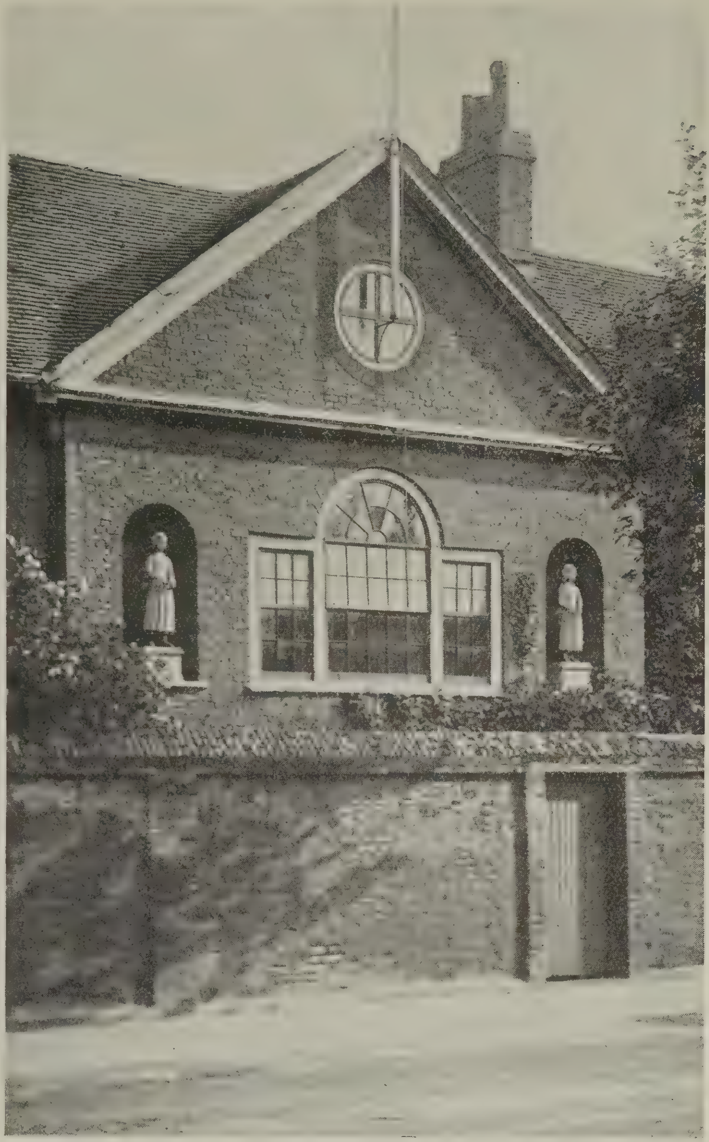
What I suggest is that the work then commenced be extended by undertaking the essential work of preparing a zone plan of London, without which no town plan can be complete. It may be urged that this is work for the State and the local authorities, and to be enforced by compulsory powers. Emphatically no—not at present; these may come, but there is much preliminary spade-work to be done. We are too apt to denounce bureaucracy in one breath, and in the next to call for compulsion. . . .

Battlefield Garden Cities

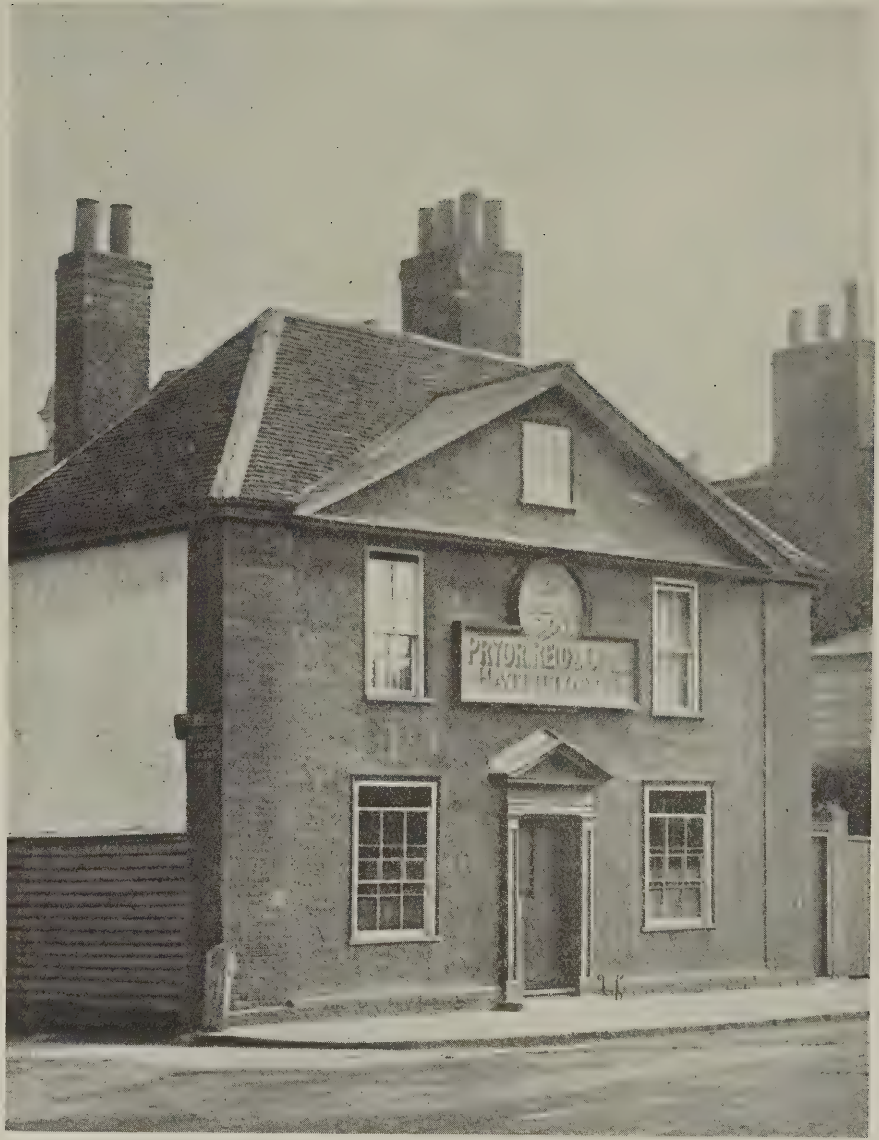
A conference on garden cities has been held under the chairmanship of Admiral of the Fleet Lord Wester Wemyss at the Grand Hotel, Cannes. Mr. Ebenezer Howard, president of the International Garden Cities and Town-Planning Association, emphasised the importance of adopting garden city and town-planning methods in the reconstruction of the devastated areas of France and Belgium.

BLUE COAT SCHOOL, HERTFORD: HEAD MISTRESS'S HOUSE

Architecture of the Eighteenth Century. 13.—Two Examples from Hertford



The Blue Coat School



The Blue Boy Inn

The county town of Hertford possesses many delightful examples of brickwork dating from the eighteenth century. The Blue Coat School, with its three-light window and niches, must have been familiar to Charles Lamb. The Blue Boy Inn is adjacent to the Hospital, and shows a proper respect for the collegiate mien of its neighbour ; though the rough-cast, doubtless a modern addition, is regrettable.

An Architectural Bridge Approach

What is probably the most elaborate and the most expensive bridge portal in the United States is that at the west, or Manhattan, end of the Manhattan suspension bridge across the East River, New York City. The Manhattan bridge is not new. It was started in 1901 and was opened early in 1910. It was not until the first part of 1913, however, that any work was begun on the monumental approaches to the bridge.

Manhattan bridge reaches street level in the Borough of Manhattan, near the corner of Canal Street and the Bowery. There was set aside at this junction an approximate rectangle about 400 ft. by 750 ft. in plan, all of which is devoted to the approach and treated as an architectural and landscape unit, the adjoining streets being shifted in some few places to meet the design requirements of the approach plaza.

The central feature of the approach is a monumental granite arch with an elliptical colonnade. Between the arms of the colonnade and under the arch passes the main vehicle roadway of the bridge. To the north of the colonnade the through surface cars turn to reach the northern roadway of the bridge, while to the south of the granite structure—that is, in the extreme southerly corner of the approach plaza—is located a terminal for the bridge trolley system, whose tracks cross on the southerly roadway of the bridge. On either side of the colonnade the area is highly parked and terraced, and retained above the level of the adjoining streets by an ornamental granite retaining wall. The footwalks, which are on the extreme north and south of the bridge, are approached from either directly south of the southerly colonnade or from the extreme edges of the plaza.

The main arch is of the monumental arch type made familiar by the Washington arch on lower Fifth Avenue, New York, and the Arc de Triomphe in Paris. It is Centre Street subway which comes up under the portal to reach the centre roadway of the bridge. The subway was designed to carry the load of the masonry portals about 70 ft. high, with an arch opening rising to 40 ft. from the roadway surface, the arch itself being a 36-ft. semicircle. The showing faces are of ornamental granite masonry, and the arch rib is of cut granite block backed for stability loading near the haunches with mass concrete. The interior of the arch otherwise is hollow, except for two reinforced-concrete floors and a reinforced-concrete roof, making the whole structure available for storehouse purposes.

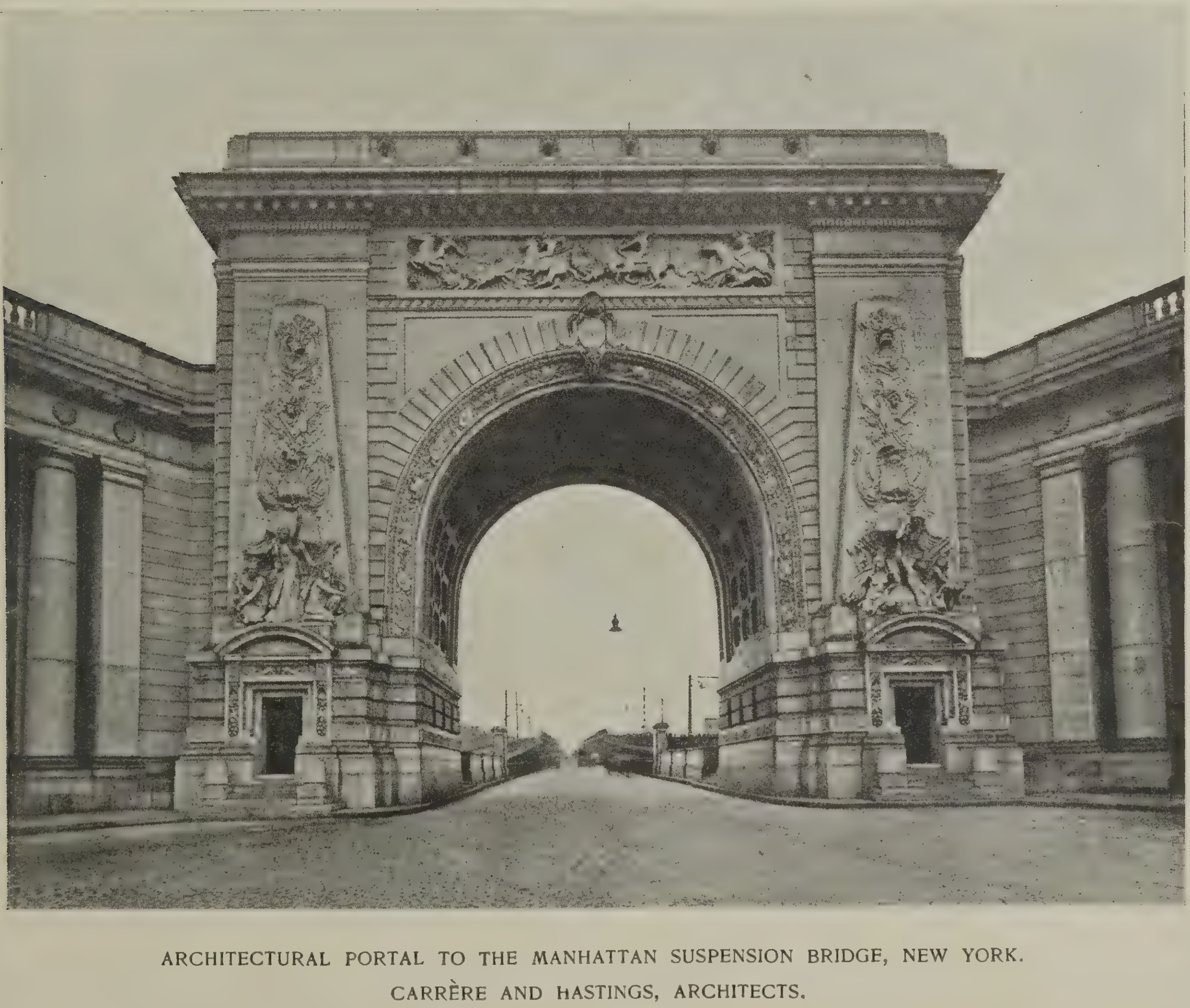
The colonnade is made up of classic columns connected by the usual cornice structure. In the two faces of the arch piers and in the space above the arch proper are figures of symbolic and historical interest sculptured in granite. Those on the piers were designed and carved by C. A. Heber. The main frieze is the work of C. C. Rumsey.

All the decorative stone is from the Hallowell granite quarries in Maine. It was cut to the smallest detail at the quarry and shipped by boat directly to New York. Very little finishing work was done by the stone-cutters at the site, and, due to the careful work by the contractor, not a single stone was broken or seriously marred in the process. This is quite remarkable, because of the highly decorative character of a number of the stone pieces, particularly in the cornice of the colonnade and in the soffit of the arch ring. Exceptionally careful work had to be done at the latter place because of the protruding stems of the rosettes, which had to rest directly on the wood lagging of the arch falsework. Practically the whole colonnade and arch were erected from one working platform about the centre of the elliptical approach. On this platform were located the derricks, which covered to all practical purposes the stoneworking area.

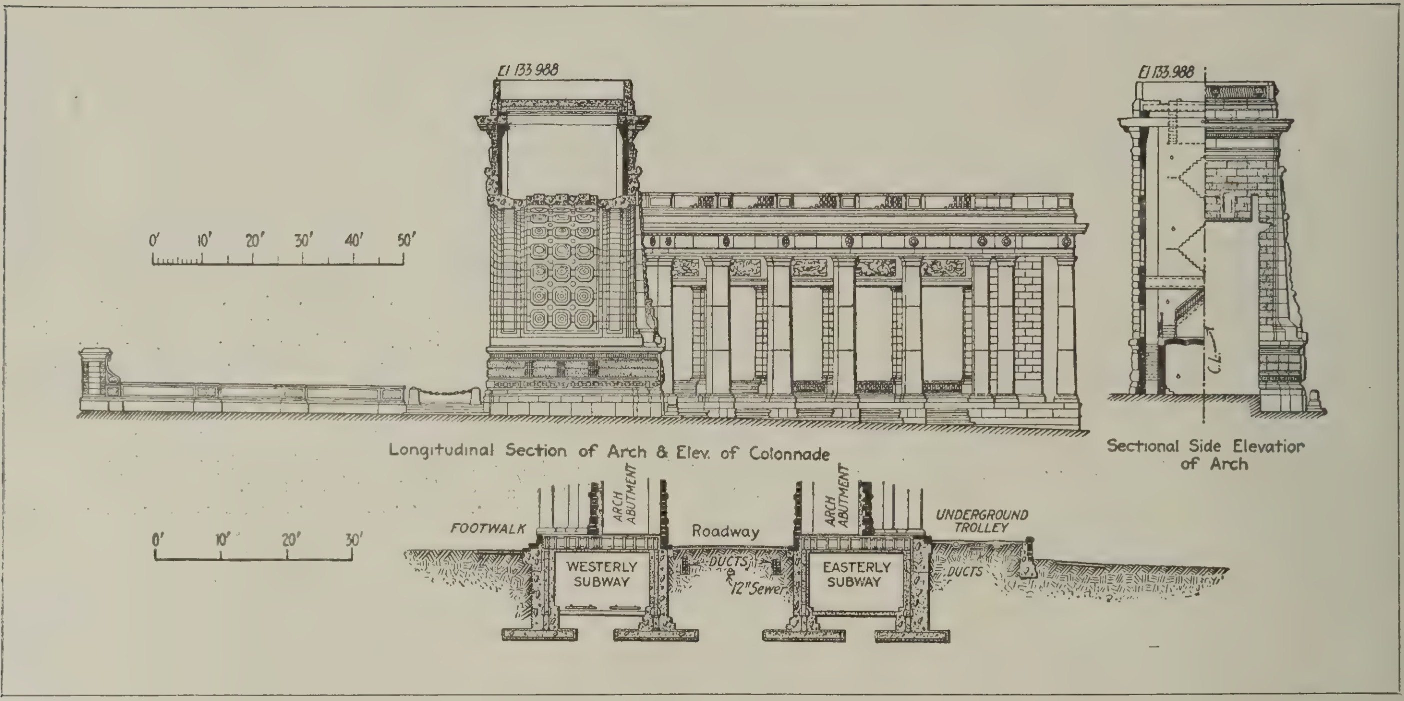
There are in the colonnade arch and retaining walls about 3,700 cu. yd. of ornamental granite and about 1,900 yd. of backing granite, together with 1,000 tons of structural steel used in reinforcing the arches and foundations.

The approach to this bridge was designed by the Department of Plants and Structures of the City of New York; F. J. H. Kracke, commissioner, and E. A. Byrne, acting chief engineer. The architects responsible for the architectural design and supervision of the approach were Carrère and Hastings, of New York City.

(For the foregoing particulars we are indebted to the "Engineering News-Record.")



ARCHITECTURAL PORTAL TO THE MANHATTAN SUSPENSION BRIDGE, NEW YORK.
CARRÈRE AND HASTINGS, ARCHITECTS.



MANHATTAN SUSPENSION BRIDGE PORTAL, NEW YORK: SECTIONS. CARRÈRE AND HASTINGS, ARCHITECTS.

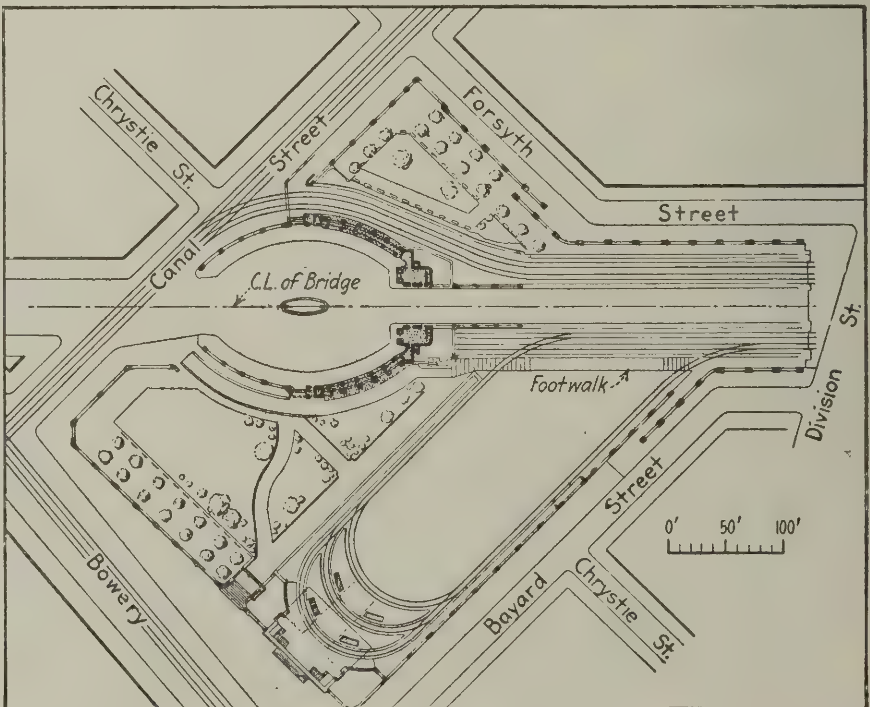
(See preceding page.)

Building Conversion and Modern Requirements.

Mr. J. G. Elsworthy, in opening a discussion on "The Conversion of Buildings to Meet Modern Requirements," at a junior meeting of the Surveyors' Institution, at Westminster, remarked that the present housing shortage had brought the subject very much to the fore. At the outset it might be desirable to consider the chief classes of buildings which, owing to the change of fashion and mode of living, had now become out-of-date, and were in need of alterations to bring them up to the standard of modern requirements. They were all familiar with the classes of buildings affected, namely: (a) Large town houses; (b) blocks of terrace houses to be found in various suburbs, seaside resorts, and inland health resorts; (c) shop property from which the market had removed; (d) large villa residences in the suburbs, erected in the Victorian or pre-Victorian times; (e) country houses which were also erected prior to the advent of motor cars. To all these classes of property certain general principles could be applied. The chief of these was that the larger the amount of property concerned, the easier became the conversion scheme. It was simpler when the unit for conversion was two houses rather than one, and simpler still when it was more than two. Secondly, the simpler the scheme of conversion the better. In these days, with the prevailing high costs dominating every consideration, it might be found that the cost of conversion prohibited the scheme altogether. The first three classes he had enumerated fell into the same category; isolated large houses in the country and suburbs presented problems peculiar to themselves.

As to terrace houses, assuming they had a block of, say, three or four houses either semi-detached or built in a terrace, it might be worth while to examine what their possibilities were with a view to conversion into flats. He supposed that most of them would agree that the flat most in demand in these days was one of three bedrooms, two sitting-rooms, a kitchen, and a bathroom. Assuming there were three terrace houses, the first effort should be made with a view to doing away with two entrances and two of the staircases, the three ground floors being made intercommunicating through openings in the party-walls. The space formerly occupied by the halls could be utilised for bathrooms and kitchens, and probably they would find, with a certain rearrangement, that they had two flats on that floor, all rooms being on the same level. The upper floors could be treated in the same way. In the case of a large block of property, say six or eight houses, with gardens at the rear and access through these gardens to some road frontage, also at the rear, it might be profitable to scrap all existing entrance halls and staircases and to build or arrange for a fresh staircase and entrance at the rear of the property. People did not spend a great deal of their time on the staircase, and it seemed a pity that valuable space, probably looking out on to a good road, should be wasted.

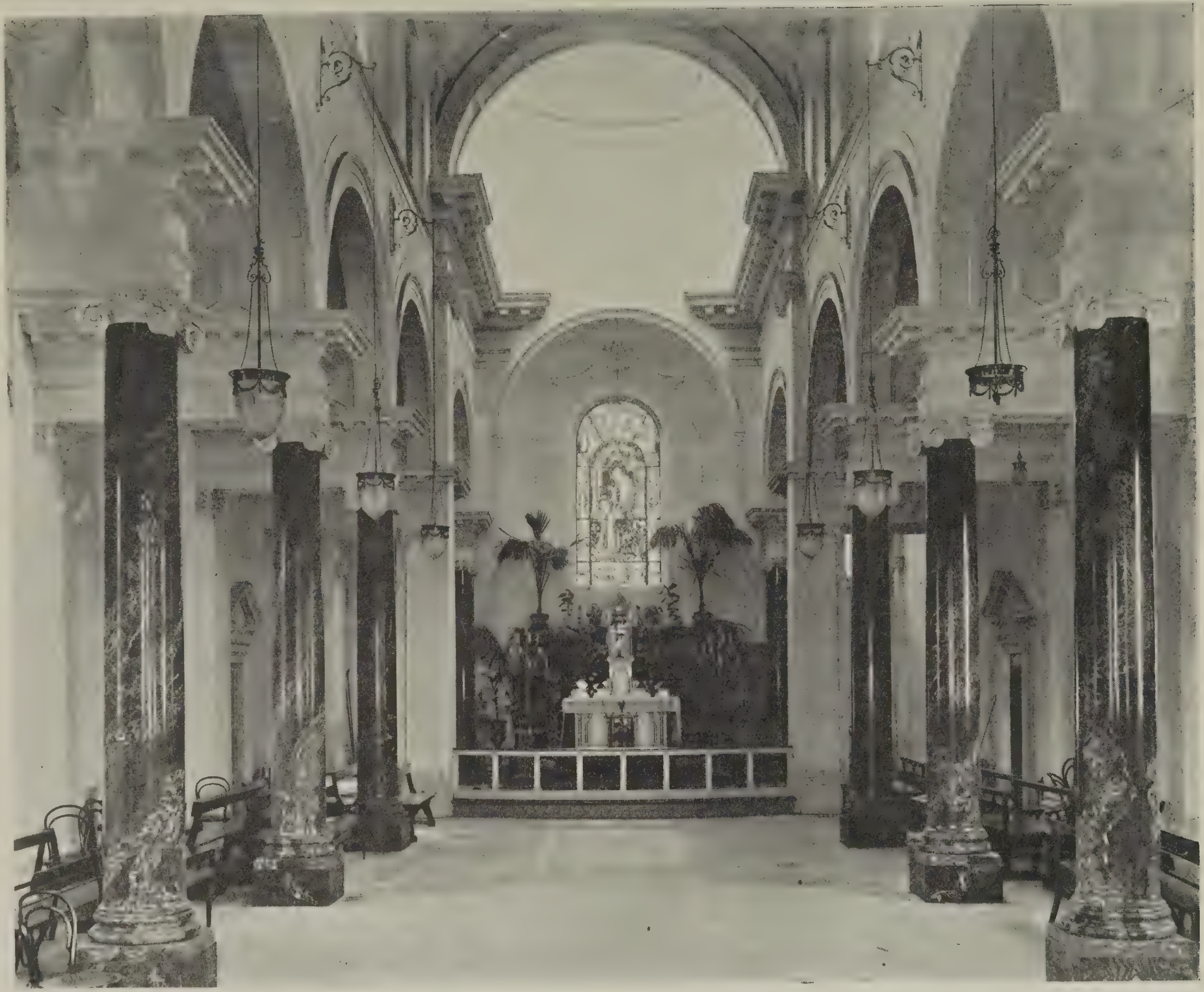
[See also Mr. Ll. Morris's article in this issue.]



PLAN OF PORTAL TO MANHATTAN SUSPENSION BRIDGE, NEW YORK. CARRÈRE AND HASTINGS, ARCHITECTS.

Current Architecture. 71.—Chapel of the Dominican Convent, Eccles Street, Dublin

R. M. Butler, F.R.I.B.A., Architect



This chapel has been erected on the site of an old house in Eccles Street, a quiet old Georgian thoroughfare on the north side of the city The necessity for good lighting dictated a nave and aisles treatment, enabling windows to be placed in the clerestory. Some descriptive notes on the work appear on page 415.

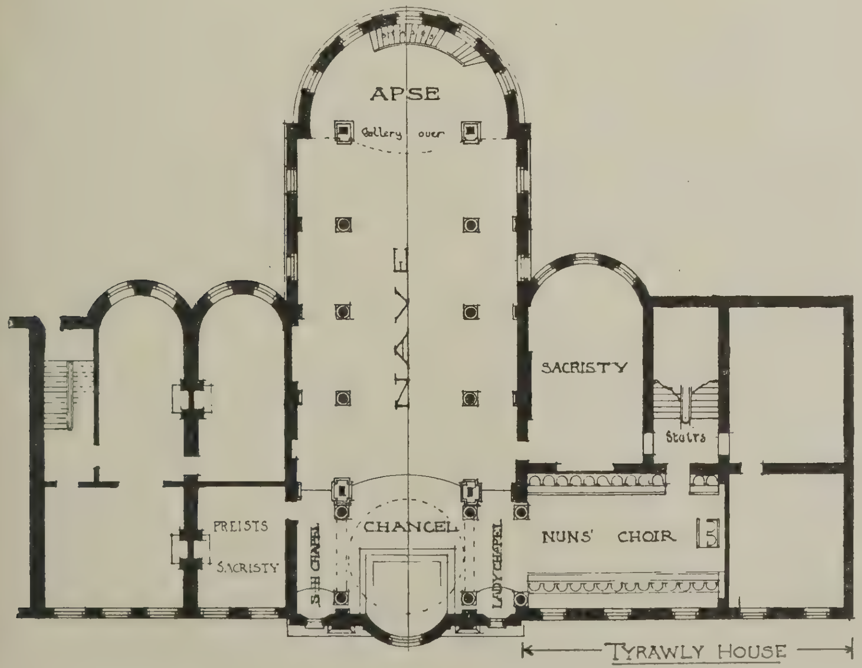
The Dominican College Chapel, Dublin

The site of the Chapel of the Dominican College, illustrated in this issue, has a narrow street frontage in Eccles Street, Dublin, a quiet old Georgian street on the north side of the city, and was obtained by demolishing one of a number of the old houses in the occupation of the Dominican Order and part of a second house. The principal house of the series is old Tyrawly House, the town mansion in the eighteenth century of Lord Tyrawly. It is a very fine old house with a big garden, and the front drawing-room, which has been converted into a nuns' choir opening on to the new chapel, contains a fine modelled plaster ceiling of the eighteenth century.

The difficulties encountered in planning the chapel were considerable; lighting was not available from the sides, the chapel could not project towards the street, nor so far at the back as to interfere with the lighting of the adjoining houses; furthermore, the chapel had to be placed upon the first floor, so as to leave the ground and lower ground floors available for classrooms and a large refectory respectively, which in turn involved considerable difficulty in lighting. Light had to be obtained by a combination of ways—from the front, from the rear, and from a dome. In addition, the necessity for good lighting dictated a nave-and-aisles treatment for the chapel, enabling windows to be placed in the clerestory. As a result, the chapel is well lighted.

In order not to cumber the floors beneath with heavy piers, the clerestory had to be carried on steel stanchions, encased in scagliola, and these form the columns of the nave arcade. The form of the backs of the old adjoining houses suggested the plan of the back or garden end of the chapel, forming an apse at the end, conversely to the usual practice of putting the apse at the eastern or chancel end, and as is sometimes found in Rhenish churches. The chancel is placed towards the street, and a projection of oriel type affords a little extra depth. In the apse is placed a bow-fronted organ gallery.

The front to Eccles Street is in dressed granite, and the apse is faced with small Athy hand-made golden-brown stock bricks. The detail is of simple Renaissance character, influenced by Dublin eighteenth-century Georgian models, and is in keeping with the interior of Tyrawly House. The architect was Mr. R. M. Butler, F.R.I.B.A., and the contractor the late Mr. K. Toole, both of Dublin.



PLAN OF THE DOMINICAN COLLEGE CHAPEL, DUBLIN.
R. M. BUTLER, F.R.I.B.A., ARCHITECT.

Correspondence

Central Heating of Dwelling Houses

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read with interest the article on "Central Heating of Dwelling Houses, by An Architect," in your issue of March 30, but the writer leaves unanswered several important objections there seem to be to the one-pipe system of central heating.

(1) It would appear that open doors or fanlights are necessary for the proper circulation of the heated air. How, then, can a member of the household be segregated in one room in case of infectious disease?

(2) How do open windows affect the circulation? Must they be kept shut to ensure the satisfactory working of the system? If so, is it hygienic to have the same air heated and cooled time after time without renewal from outside?

CUBED.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Referring to the article which appears in your issue of March 30 on "Central Heating of Dwelling Houses," I do not doubt the accuracy of the statements contained therein. Your correspondent has not, however, drawn attention to the difficulties which confront an architect in adopting this system of heating.

The greatest defect is that in order to heat the various apartments of a house the doors of these apartments must remain open, or if this is considered an objection gratings must be introduced to admit the heated air. This does away with the privacy of the rooms.

I hold no brief for any particular form of heating, but I doubt very much the possibility of obtaining an equal temperature in all the rooms, both upstairs and downstairs, of a moderate-sized dwelling house by the system referred to.

"ARCHITECT."

Cut Brickwork

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am gathering material for a work on brickwork, and I should be greatly obliged if any of your readers would tell me of any good examples of cut or cut and rubbed brickwork. I am specially anxious to find elevations in the Ionic order carried out in this material, where the capitals are not of stone but carried out in cut brickwork. There must be many in the provinces and in country towns, which have not yet been illustrated, and a postcard giving the exact situation, the order or style of work and approximate date, would be most helpful.

NATHANIEL LLOYD.

Architectural Association of Ireland

Mr. George Atkinson, R.H.A., has delivered a very interesting lecture, entitled "Modern Furniture," before a meeting of the Architectural Association of Ireland, held at Dublin under the presidency of Mr. J. C. Dewhurst, F.R.I.B.A. The lecturer classified modern furniture into three types, namely, (1) furniture of designs copied entirely, or almost wholly derived, from preceding styles of the periods of oak, walnut, mahogany, and satinwood; (2) showy, pretentious furniture, cheaply manufactured without regard for the essentials of good design, overloaded with ornamentation, and glittering with purposeless mirrors; (3) furniture of design unrelated to historic precedents, and of pronounced individuality, the outcome of efforts to give expression to the artistic conceptions of the present age, untrammelled by antiquarianism, and true to the qualities of good traditional design without imitation.

The lecturer stated that the essentials of good design in furniture were governed by the purpose for which it was intended, selection and proper use of suitable material, and by the beauty and effect of the whole. Beauty in furniture consisted in sound construction, good proportion and pleasant lines, with such ornamentation as may be introduced naturally as a finish. He refuted the too prevalent conception of ornament as pretty details that may be put on elaborate furniture, or omitted for plain furniture; and that the artistic value of a design was to be measured by the amount of carving and mouldings.

The lecturer expressed the view that the architect was in a position to exercise a favourable influence on modern furniture design, particularly in regard to fixed furniture in dwellings. The lecture was illustrated with numerous lantern slides.

Renovation of Painted Work

By ARTHUR SEYMOUR JENNINGS, F.I.B.D.

THE architect is concerned in renovation at the present time to a greater extent than he has been hitherto, because clients who were formerly disposed to avail themselves of his services in connection only with the design and erection of new buildings are more likely to come to him now in their distress and in the hope that he can find some way of getting urgent work done. Then there is the conversion of large houses into flats, etc., to be taken into consideration.

There can be no doubt that a great deal of painted work, particularly on interiors, can be made in quite a good condition by thorough cleaning down, with or without a coat of oil paint, enamel, varnish, or distemper to follow as the case may require. It should be remembered that cleaning down is quite essential as a preliminary to all painting and decorative work, so that if even it is decided after that has been done to give two or more coats nothing is lost. When the accumulation of dirt has been removed the time has arrived for a close examination of the work and a decision as to what should then be done. My experience is that very often indeed nothing much will be required in the way of paint, and that one coat more very frequently suffices.

Contract Unnecessary

Of course, this method of procedure will prevent any contract being entered into in advance, but if the work is given to a thoroughly reputable firm there need be no hesitancy on that account. The average master decorator at the present time is anxious for less rather than more work. Contracts are entered into mainly because it is the custom, but I have always maintained that it is wrong as far as painters' work is concerned. The scrupulously honest firm must add something to the tender to cover possible contingencies. It is possible if the work is done by contract and is given to the lowest bidder, that something may be left undone, or the terms of the contract evaded in some particular.

In passing it may be observed that the extent to which this "skinning" of a job is done by a certain type of low-class decorators is portrayed to the life in "The Ragged Trousered Philanthropists," published by Grant Richards. No architect who reads and digests that book—it was actually written by a journeyman painter—would again hesitate about giving his work to a reputable firm, who would not only make a fair charge at its completion, but would be in a position to give expert advice during its progress.

The work then having been cleaned, the next step to be taken is to determine what shall be done with it. The ceilings will, of course, have to be rewhitened. The woodwork, if painted, may be in a sufficiently good condition to pass muster, or a coat of varnish or paint will restore it to something like its original condition. The same is true in regard to enamelled work, which is often found, when cleaned, to be in excellent condition, except that it has probably lost some of its gloss. A coat of new enamel will be quite sufficient to restore such work. Of course, in case of cracks or blisters, there is nothing to be done except to remove the old paint and start afresh, but the priming coat may be omitted. If such cracks or blisters exist they will be apparent before the work is cleaned and can be provided for.

Sometimes painted work on the outside will be found, after cleaning, to be in a good condition generally excepting that it has also lost its gloss. In such a case a coat of new paint is imperatively necessary, or in certain cases a coat of linseed oil—two-thirds raw and one-third boiled—will restore the paint to something like its original condition. The loss of gloss on inside work is not serious. On the outside, however, it marks the point when the life of the paint has reached the stage when it begins to decay, the oil, which is the binding agent of the pigment, having been destroyed by the action of the weather. If a first-class enamel is used instead of ordinary paint one coat only will often be all that is required. The writer recently had to deal with a small house in Surrey which is a case in point. The woodwork having been cleaned down was found to be quite free from blisters and cracks, but the gloss had almost entirely disappeared. One coat of green enamel was given to the woodwork in general, the sashes being done with white enamel. The work was done at very little expense in this way, and, as far as one can judge, will not require touching again for two or three years. The front door, which alone showed signs of blistering, was stripped of its paint by the application of a neutral paint remover. It was then given one coat of washable distemper to prevent further blistering, and finished with a coat of nearly flat paint, and on top of that with a good round coat best quality front door varnish.

Ready-prepared Paints

For both new and old work which is to receive one or more coats of oil paint I advocate at the present time the use of a first-class ready-prepared paint, first, because it can be more readily obtained; and, secondly, because it will save the time and expense of mixing. There should be little or no difficulty in getting a good brand which is guaranteed to be made from white lead, zinc oxide, linseed oil, and turpentine only. There is no difficulty either in regard to colour, as these paints are made in a large variety of tints and shades. One should aim, however, at purchasing the most expensive brand rather than the cheapest, and in that way ensure the use of good materials. The reason why such paints are cheaper than those which are mixed by the painter is that by the aid of up-to-date machinery the admixture can be effected of fifty gallons of good paint while the painter is mixing one in the ordinary way.

Coming now to the interior, we have to consider what is best to be done with the walls. If they have been papered and the old paper has been removed, the treatment will depend upon whether the plaster is in a good condition or not. If it requires much repair the best plan is to hang lining paper, which will form a ground either for new wallpaper, or distemper, if a plain surface is not objected to. The latest development in paints, which dates back half-a-dozen years or so, is what are known as "flat wall finishes."

These are gaining rapidly in popularity, principally because they are so easy to apply, and also because they last so long. It is to be feared that only too often so-called washable water paints will not bear the test of actual washing. Accumulated dirt may be removed with a sponge and water, but anything more drastic, such as scrubbing, will remove the dirt and paint together. Flat wall finishes, however, can be literally scrubbed with soap and water a few days after their application. They are mostly made with lithopone and a zinc sulphide base mixed with tung (Chinese wood) oil, or perilla oil, which give them the remarkable quality of resisting the action of water. These paints are made in a large variety of colours, and although they would cost as much to start with as ordinary paint, or even a little more, the fact that one coat is usually sufficient, and that they will last for many years with occasional washing down, makes them very economical in the end. If ornamentation is required it can be introduced by using paper friezes above the picture moulding. These paints can be varnished if desired, and no sizing or other operation is required. They are peculiarly well adapted for painting ornamental plaster work of a delicate character, as they give a very thin coat and therefore do not fill up the ornamentation as ordinary distemper is apt to do. They are also well adapted for using on relief materials such as lincrusta, anaglypta, lignamur, cameoid, etc.

Portable Sprayers

The very latest development in house painting, and one which is likely, to some extent, to revolutionise the whole industry, is the introduction of a portable appliance for spraying paint by means of compressed air. Paint spraying has, of course, been in use for many years, but it is only recently that it has been made available for painting houses. It will be particularly useful in the case of large surfaces such as, for instance, the front of stuccoed houses which are found in such great numbers in the West End of London. A swing scaffold should be used. The paint pot is stationed on such scaffold and the air is pumped up from the ground to any height up to 50 ft. The actual spraying is a very simple operation, which can be learned by a young man in a few hours. The actual spraying machine consists of a pistol-like arrangement having a long trigger, or lever, and on this being pressed the paint is discharged, and at the same time from a second tube a sufficient quantity of air to atomise the paint and project it upon the surface required. It was found by actual experience that paint applied in this manner is even more uniform than when applied by a brush; while the force of the air is greater than that which would be used by an ordinary painter. The apparatus costs £150 as a minimum, but the saving of time would be very great, and one looks forward with interest to seeing the outcome of this important new departure.

Adapting Old Houses to Modern Requirements

By G. Ll. MORRIS

THE small house erected in London during the late eighteenth and early nineteenth centuries may have six, eight, or ten rooms. It usually rises from the basement, with two rooms below the level of the street, and generally has two rooms on each floor above. Possibly there are more of these houses in the north and east of London than elsewhere, but no district can claim a monopoly.

This is a common type of house, and can be made a pleasant one if the basement rooms are not too much below the level of the street, and if a wide area helps to make the lower rooms light. In the vicinity of De Beauvoir Square there are streets of six-roomed houses of this type, with the front garden next the street at the level of the basement floor.

Merrick and Trinity Squares to the south, Claremont and Myddelton Squares to the north, are flanked with eight-roomed houses. Carlyle described those in the last-named square as bright and smart but badly planned as usual; nowadays, they are not even bright and smart, and the plans remain much as when Carlyle wrote his description.

No. 1 and No. 3 of the examples chosen to illustrate this article are in busy neighbourhoods, while No. 2 is in a residential district which still retains that air of staid respectability and piety which distinguished the Victorian era. The adapted plans of these should be regarded as tentative suggestions to provide housing for the professional man, the fairly well-to-do tradesman, and those holding responsible positions in City or West End firms. Circumstances connected with their occupation will often require that they should live in urban areas, but there will be a fair number who, like Charles Lamb and Doctor Johnson, will have a preference for town life.

The accommodation needed will not vary to any great extent. Dining and drawing-rooms, four, five, or six bedrooms, with bathroom, etc., and other domestic offices, are the usual requirements, and a morning room and an additional bedroom may sometimes be called for. The number of rooms is governed necessarily by the size of the dwelling, and the neighbourhood will have its influence as to the class of tenant to be catered for. It is well to realise that drastic and costly alterations must be avoided, otherwise the owner will discover, perhaps too late, that it would have been better to pull down and rebuild the houses.

Though there may be less scope for the planner in altering a small house than in a large one, the problem is much the same on a reduced scale. As in the large house, there will be the difficulty of adding good sanitary arrangements, and also the question of properly lighting the basement. In examples 1 and 2 the lighting of the basement or lower ground floor is fairly good, as the floor in each case is very little below the ground level. No. 3 is a more difficult and more usual problem.

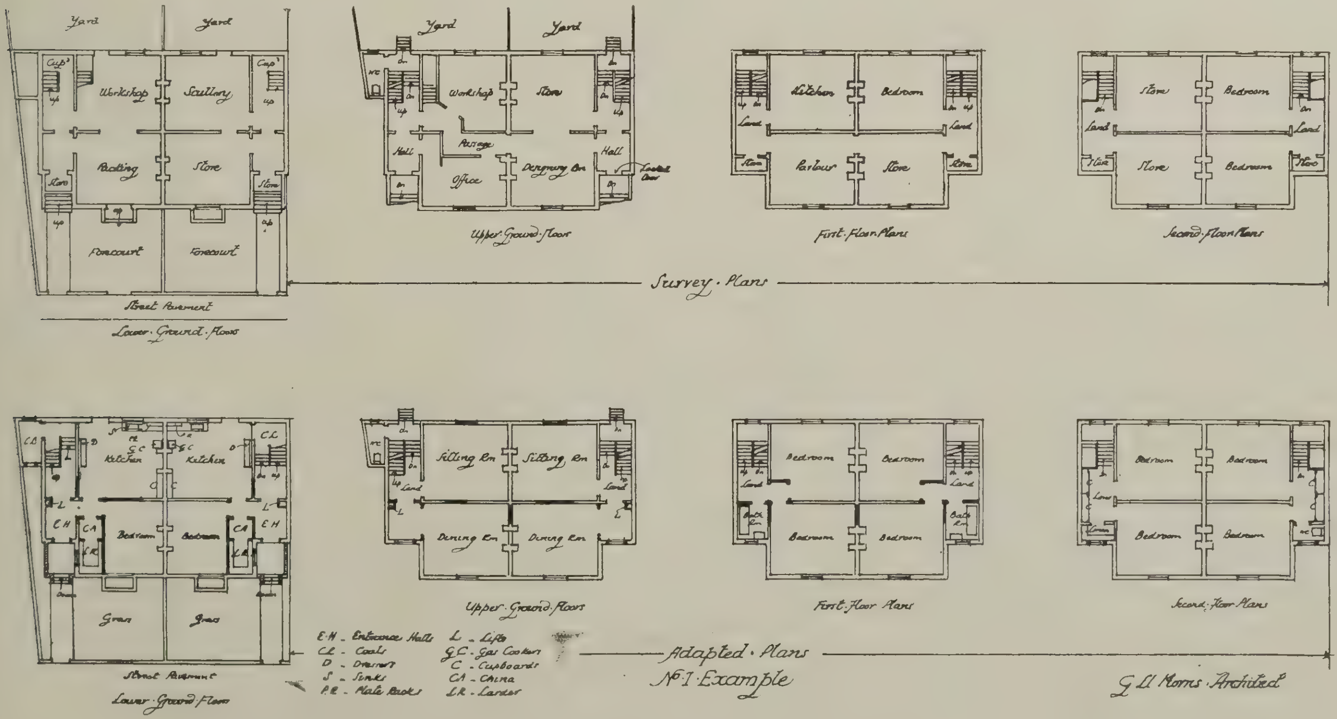
In example No. 1 (a pair of houses) the lower ground floor is four steps below the pavement level; the arrangement of the rooms, stairs, and entrance is relatively the same as in a large house, but, of course, the rooms are of smaller dimensions, and there are no rooms outside the main walls. It has the usual front and rear rooms, with one staircase parallel with the room at the back. This staircase connects all storeys, and the disposition of the rooms is practically the same on each floor.

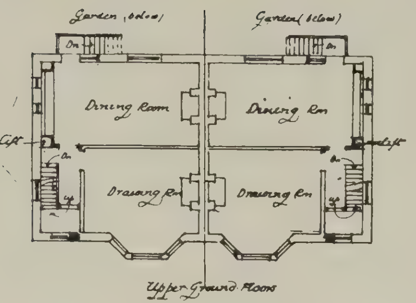
The portion of the building which contains the staircase, lobby, etc., is set back behind the face of the main façade, a not uncommon arrangement in some London districts, and in this instance it gave ample room for the landing and most of the external steps within the recess. It should be noted that these houses have been connected by means of doorways in the party wall, and are now used conjointly, partly for domestic purposes and partly as workshops and stores.

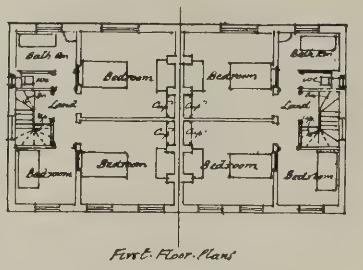
In the suggested alterations the basement requires most consideration. The external stone steps and landing, giving access to the present front doors at the upper ground floor level, would be removed, and some of them used again as steps down to the new entrance doorway at the lower ground floor level, the old landing being utilised to flag the space in front of the new entrance door. A new partition is shown extending from the front wall next the window to the cross partition between the two rooms. By this means a bedroom of moderate size would be obtained, and the remainder of the space converted into a larder and china cupboard. In the entrance hall a small hand lift would be installed in a position easily accessible from the kitchen and connected with the rooms on the upper ground floor. The floors of the new store, kitchen, and bedroom, all in the basement, would be taken up and laid with 6 in. of concrete, and the bedroom and kitchen floored with wood blocks.

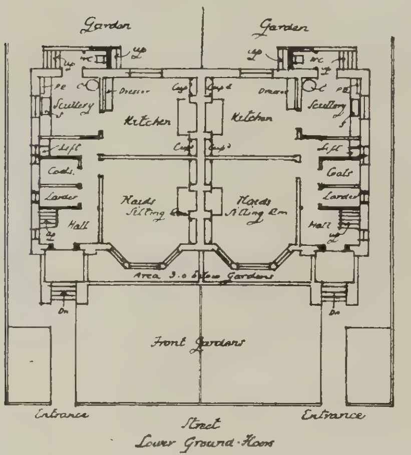
A new window is needed in the flank wall to light and ventilate the larder, and the kitchen and entrance hall should be lined with cream or other coloured tiles to a height of 6 or 7 ft. This would make the entrance and kitchen clean and cheerful. A new sink, cupboards, plate rack, dresser, and new range should be added, and all the plumbing here and on the first floor ought to be of the best quality.

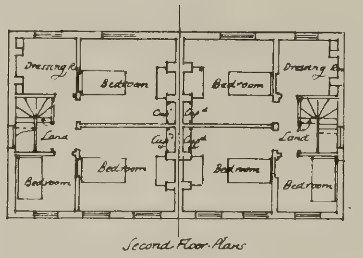
The large opening in the partition between the front and rear rooms, with the old doorway to the rear room should be bricked up and a new doorway formed from approach lobby to kitchen and china store. All the internal doors might be











No 2 Example · The Adaptation of a typical example of semi-detached suburban house planning built about the middle of the nineteenth century.

G. Ll. Morris · Architect.

glazed in the upper panels for the purpose of obtaining as much light as possible from the windows in the external walls, the altered doors to be rehung in the new positions.

On the upper floors, the chief alterations are the removal of portions of the partitions on the upper ground floor, the formation of a lobby between the front and rear rooms on the first floor, and the bricking-up of the openings in the party wall and in the partitions, and of a portion of the old entrance doorway. A new window is necessary to light the small annex to the dining-room. On the first floor the partition enclosing the large store adjoining the front bedroom would be removed, and a new one with doorway erected in line with the existing partition between the two bedrooms, to form a bathroom and lavatory.

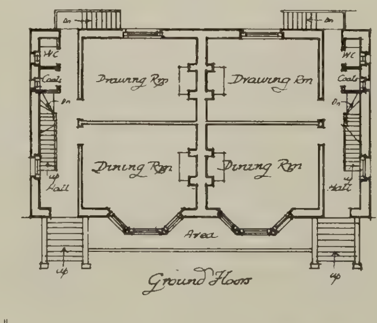
On the floor above cupboards could be formed on the landing and in the right-hand house the large store transformed into a w.c., approached from the landing on this floor. The old fireplaces on the upper floors could remain, and the house should be redecorated and repainted throughout. Externally the stucco walls require repairing and repainting, as also does the external woodwork. The roof timbers should be carefully examined and strengthened if necessary. The new windows on the external front wall and flank of the projecting portion would follow the existing pattern and be carefully related to the wall spaces and the old windows. It is necessary to stress this point of detail, as it is of common occurrence with architects to overlook the excellent proportions of these dwellings.

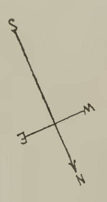
Though there is a likeness between the first and second examples, the extra width of the houses and the larger dimensions and greater number of rooms suggests a rather different scheme of alterations. In the former the staircase remains, while in the latter, the modifications would be confined chiefly to providing a new staircase from the lower and upper ground floors to the first floor, the upper flights remaining except for an improvement made by replacing the existing winders at the foot of the stairs and adding two straight steps at the bottom of each flight. As in example No. 1, the lower ground floor is just below the basement level, and the front entrance would be transferred to the lower ground floor level, the broad flight of stone steps being removed. The opening in the external wall to the old cellar is modified to form the new doorway, so that it may come directly under the windows to the upper floors.

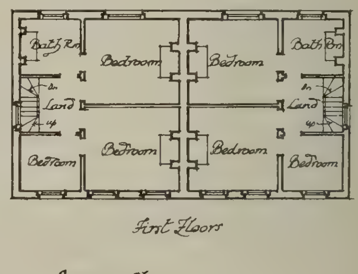
In the basement the structural alterations would involve the removal of the staircase and the rearrangement of the partitions enclosing the small domestic offices and old stairs, the new staircase to start from just within the new front door and to end on the upper ground floor opposite the new lift and the door to the dining-room. An additional door is required between the new hall and the passage behind to cut off the domestic quarters. The lift in the basement is at the end of the service lobby next the scullery; the old doorway to the latter would be bricked up and a new one formed between the kitchen and scullery. The sitting-room in front becomes a maid's sitting-room or bedroom. The tradesmen's entrance, kitchen, and scullery to remain as before. A new w.c. to be formed under the stone staircase from the garden to the dining-room. On the upper ground floor the old front doorway would be partly bricked up and a new window inserted to light the upper hall and new staircase. The drawing-room on this floor becomes the dining-room, and is carried the full width of the house, a clean sweep being made of the coal cupboard, the w.c., and the through passage. A new window is needed next the doorway giving access to the steps leading to the garden. On the first floor the small rear room would be converted into a bathroom and w.c., a small lobby disconnecting them from the landing. With the exception of the blocking up of a few doorways, no more modifications would be necessary.

General repairs, repainting, new sanitary and other fittings would complete the work, and need not be described here, as they are much the same in every scheme of adaptation. This type of house was built later than any of those which have been previously described, and from an artistic point of view is inferior. They are generally built in pairs and are numerous in the Victorian suburbs of London. On the whole they are fairly well built.

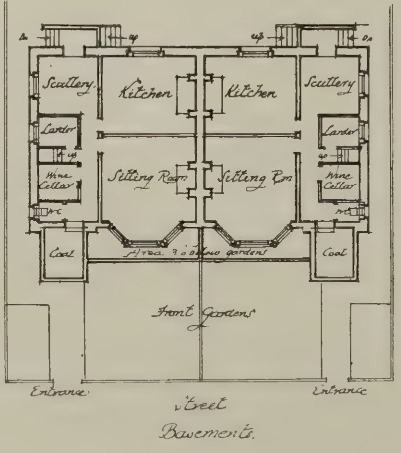
Example No. 3 illustrates the adaptation of a house on a narrow site with little depth from front to back. As it is one of a terrace of similar houses, lighting is only possible from the street, the roof, and the yard at the rear. The basement storey in the front is rather less than half its height

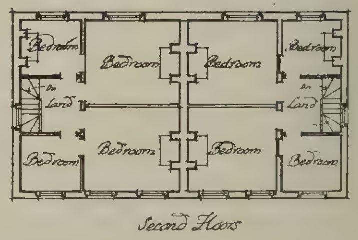






Survey Plans.

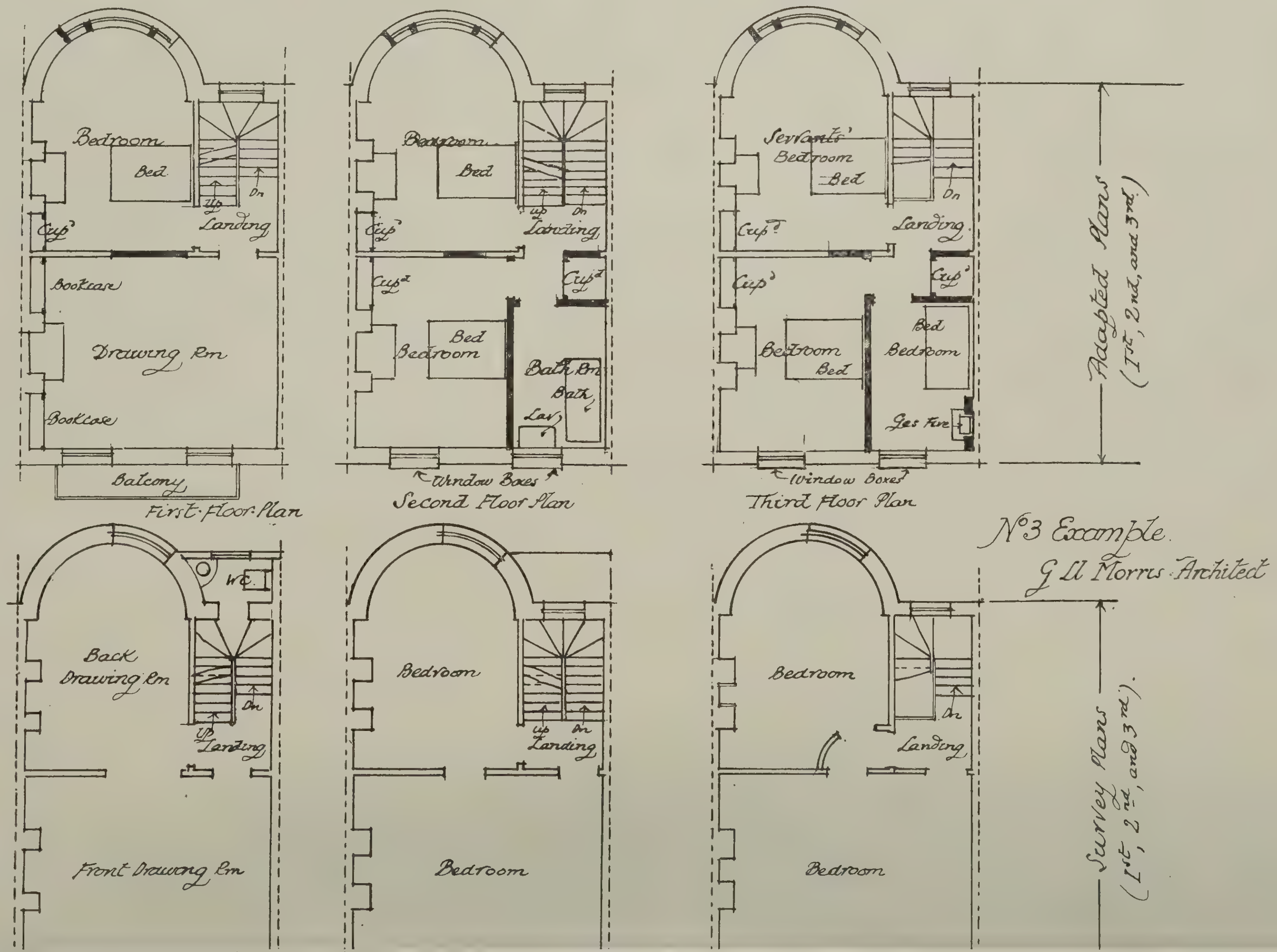


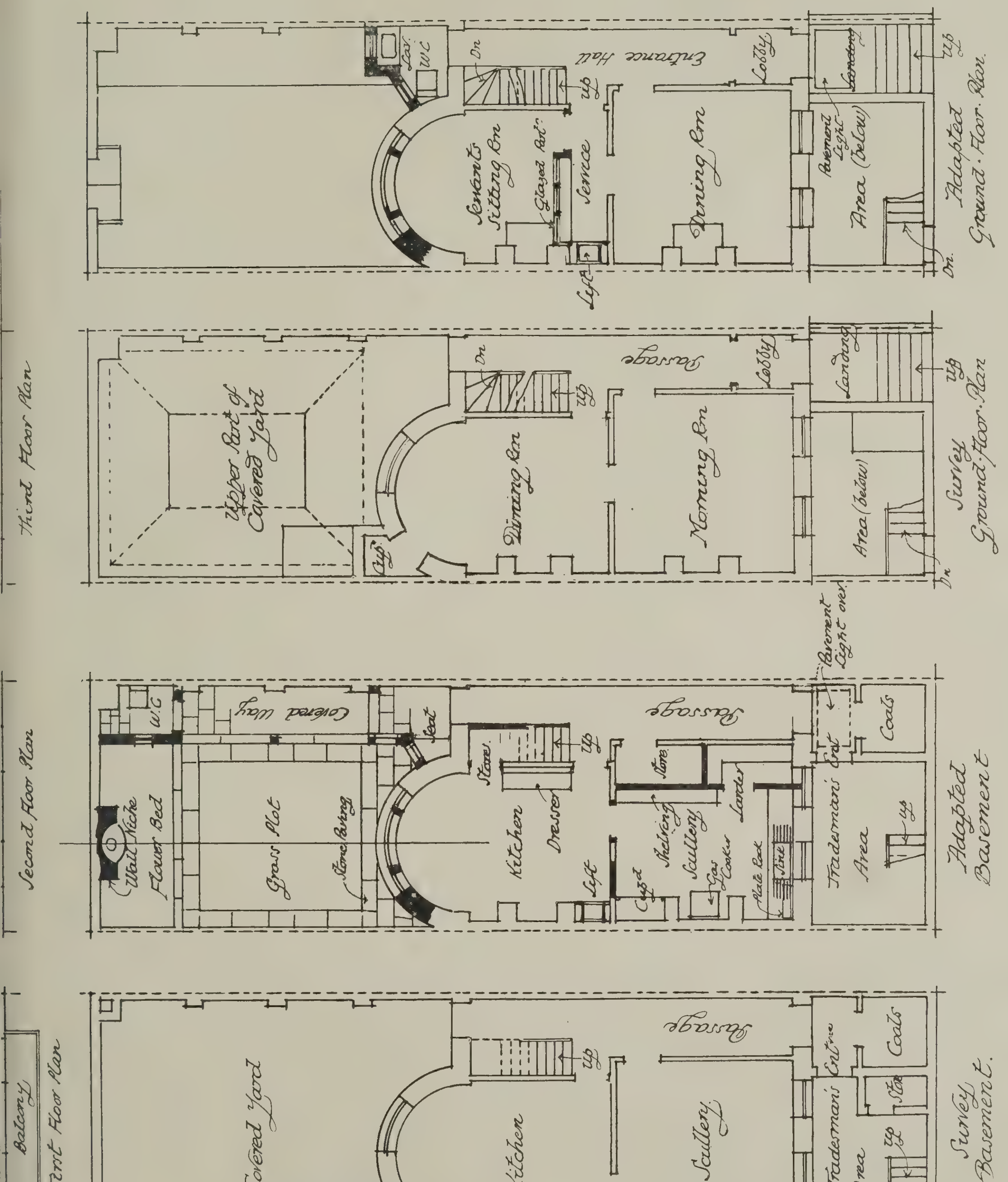


Dulwich Road Herne Hill. S.E. A typical example of semi-detached suburban house planning built about the middle of the nineteenth century. Scale 1/16
Surveyed by G. Ll. Morris
H. W. Parnacott Archts.

Architects' Working Drawings. 33.—Plans showing the Adaptation of Old Houses to Modern Requirements

G. Llewellyn Morris, Architect





These drawings should be studied in conjunction with Mr. Llewellyn Morris's admirable article on the adaptation of late eighteenth and early nineteenth-century houses to modern requirements. Houses of the type shown exist in Maida Vale, Swiss Cottage, and parts of South London.

above the street level, while, at the rear, the ground is at about the level of the basement floor.

Houses arranged in this way are not unusual; there are many in Maida Vale, Swiss Cottage, and parts of South London. In Blomfield Terrace, Maida Vale, for instance, the rear of the houses faces a common garden at a level slightly below the basement, while the ground floor is only one or two steps above the street. There is a narrow area between the front of the house and the pavement.

In this type of house the basement in the front should be utilised for stores or for any kind of room other than one for living in. The third example is not so unsatisfactory as those described above, but in the adapted plans a maid's sitting-room has been schemed on the ground floor, and the front room in the basement next the street area has been converted into a scullery, the kitchen in the rear looking out upon a pleasant little court with grass plot, flower beds, and a simple wall niche on the end wall. At the time when this house was surveyed the yard at the rear (used as a store) was covered by a roof and a large glazed skylight; consequently the basement and ground floor rooms and the staircase at these levels are all inadequately lighted.

Originally the yard was open to the sky, the present roof and skylight having been erected at one of the stages of the deterioration which overtakes these dwellings, probably when it was converted into a warehouse and office premises. The survey plans should be carefully studied, as they give a good idea of the typical small house plan that may be found in almost any of the inner districts of London. The various stages in the decline of this and similar dwellings are clear and unmistakable. Originally it was the home of a fairly well-to-do merchant and his family—with a well-stocked wine cellar—a real gentleman with no fads and fancies in the matter of hygiene and bathrooms. As time went on, the growth of travelling facilities, the increase of commerce towards the then outlying districts and the gentleman's rise in the world brought about a change of occupiers. The merchant moved outwards, and the building was used as offices or perhaps shop premises, the new tenant living in the rooms over his shop. This involved a few alterations, not serious enough to depreciate the character of the dwelling. Later came the transformation from business premises to a boarding house for all sorts and conditions of people.

There are squares and terraces of such buildings all devoted now to this purpose—inconvenient residential quarters conveniently situated for a very large number of hard-working people. In almost every other window is a card advertising "Apartments to Let" or "Gent's Bed-Sitting Room." It was at about this stage in its history that the demand for a bathroom became insistent.

One of the causes of the decline of these houses may be attributed to the absence of any worthy attempt to deal with its sanitary conditions at the time when one class of tenant was leaving and another and poorer class was taking its place. Another stage in its ignominious fall from high estate is its conversion to factory premises. Prematurely found wanting for the purpose of a modern domestic dwelling, it is often summarily despoiled of its well-proportioned windows and masses of brickwork. Great gaps are ruthlessly torn in the walls, large iron casements are inserted, and every one of its pleasant, if quiet, characteristics is sacrificed to the temporary convenience of a captain of industry. The spoliation of a neighbourhood began; it was now not merely the demolition of a house thought to be obsolete, but the degradation of a neighbourhood. Perhaps even worse than this kind of conversion is the case in which an owner is mistakenly anxious to improve the fronts next the street. To this end he refaces the front with red brick, introduces tile-hung bays, and the rest of the usual popular features beloved by architects and well-intentioned owners. It is not suggested that these steps in its decline and fall are consecutive, or that they occur in the order described, but they do faithfully portray the various stages found in different houses in London districts.

To return to example No. 3. This appears to have gone through many of the stages, with the exception of the most ignominious. Its proposed adaptation consists mainly of the rearrangement of partitions and the erection of additional ones, the removal of the roof and skylight, etc., over the yard, and the addition of lavatory and w.c.'s projecting into the yard. The allocation of the purpose of each room is varied, as may be seen by reference to the illustrations. It is unnecessary to describe in further detail the minor alterations and modifications, as these would follow much the same lines as in examples 1 and 2. The existing fireplaces are well designed and of appropriate classic detail, so that no alterations are necessary in this respect. The adaptation of similar buildings to example No. 3 has recently begun to receive some consideration. A recent issue of THE ARCHITECTS' JOURNAL drew attention to the careful conversion of old houses into flats at Blackheath. Similar conversions have been undertaken in Trinity Square.

The general disinclination of owners to undertake this work of adaptation is partly due to the fact that the deterioration of a property does not always affect its money value. As the late Mr. Charles Booth pointed out, the complete change of a district from middle to working-class occupation does not necessarily, in the end, involve financial loss. Nevertheless, its true value to the community is getting less every year, while its money value to the owner may even be growing. For example, two or three families occupy one house and may be paying more rent than was previously obtained from one tenant; it is therefore not to the pecuniary advantage of the individual owner to undertake alterations for the convenience of tenants who, unlike their predecessors, are not in a position to demand them.

R.I.B.A. Council Meeting

The following business was transacted at the last meeting of the Council of the R.I.B.A.:

Conditions of Building Contracts.—The President reported that a friendly and informal conference had taken place between several members of the R.I.B.A. Council and several leading master builders on the subject of Conditions of Contract, and that it was hoped that formal negotiations would be resumed on a satisfactory basis at an early date.

The Building Industries Consultative Board.—Mr. Delissa Joseph was appointed to serve as a representative of the R.I.B.A. on the Board in place of the late Mr. Henry T. Hare.

Building Trades Parliament.—Mr. George Hubbard was appointed to serve as a representative of the R.I.B.A. on the Building Trades Parliament in place of Mr. Paul Waterhouse, resigned.

Brewers' Company's Licensed House Competition.—The Council adopted the award of the President who acted as Assessor in the competition.

Royal Commission on Fire Prevention, etc.—At the invitation of the Home Secretary the Council nominated Mr. Digby L. Solomon to serve as a member of this Commission.

The New Delhi

Progress of the new Delhi, the chosen capital of India, is regulated by the amount of the yearly grant which the Indian Government can provide. At the moment, according to "The Times," the situation is difficult. India has had a bad monsoon, the rupee has fallen in value disastrously, there is serious financial stringency, and the Government apparently regards the raising of a building loan as out of the question in existing conditions.

Sir Edwin Lutyens, R.A., who has just returned to England after a visit to India and to the site of the city which he designed, is doubtful whether his plans will be carried through in their entirety in less than ten years, unless there is a decision to accelerate the work.

The information which Sir Edwin Lutyens has brought back concerning the present state of the new Delhi is interesting. Government House and the buildings for the Secretariat are progressing, the structure in each case now being at least 30 ft. high. Government House has been designed as the focal point of Sir Edwin's conception of the capital. Processions approaching the building will have it in view for two miles as they move along a stately avenue flanked by trees, waterways, and fountains. There is one point along the route where the building becomes temporarily obscured, but a scheme is under consideration which would obviate this defect.

The foundations have been laid for the Legislature Building, and work has been started on a temporary museum. The great waterways on either side of the long avenue have been formed, the Grand Place is practically finished, and two of the fountains have been constructed. Tree-planting has been retarded by the high cost of water pipes, but the planting is going on. In addition, about 150 bungalows have been erected. So far as the main buildings are concerned, it may be noted that the heavy work is now done, and that a good deal could speedily be shown if greater activity were developed in pushing forward their completion. Sir Edwin Lutyens is inclined to think that the new Government in India will be more anxious to get on with Delhi and make of it a worthy city than the old Government, which has been troubled by its position of trustee of Indian money.

The Native Princes have fully endorsed the choice of Delhi as the capital of the Indian Empire. Quite a number of them have applied for, and have been allotted, sites on which they intend to build little palaces. At present the palaces have still to be built, and the Government of India is carried on in a plaster city north of Old Delhi—something just a little better, Sir Edwin suggests, than our wooden huts in the parks—and in tents.

The Building Exhibition: Preliminary Survey

THE Building Exhibition at Olympia will be opened on Tuesday, April 12, by Mr. John W. Simpson, P.R.I.B.A. All the arrangements are now complete, and everything points to a great success. Every inch of floor space in the immense hall, with its galleries and annexe, was booked up many weeks ago, and consequently numerous late comers have been unavoidably disappointed. While commiserating with these unfortunates, we cannot but rejoice that manufacturers in large numbers have shown such eagerness to secure space weeks, even months, in advance of the opening date. It is a reassuring sign—one that speaks of perfect confidence in the future. Just now the prospects for the building industry are distinctly brighter than they have been for months past, and we are strong in the belief that the forthcoming exhibition will mark the opening of a new era of prosperity.

This year we are devoting three specially enlarged issues to the exhibition. In this, the first of the series, having been courteously supplied by exhibitors with a great mass of advance information, we are able to give a general forecast of the scope and character of the exhibition. Next week we shall publish fuller notices of the exhibits, with much additional information relating to the show and the personalities associated with it. In our third issue we shall include a number of specially contributed articles on particular aspects of the exhibition, reports of meetings held during its progress by the various architectural and building societies and institutions, together with photographs of the more attractive stands. Other features will take the form of commentary and interviews.

During the run of the exhibition performances will be given daily from 3 p.m. to 8 p.m. by the Royal Artillery String Band.

Meetings and Conferences

The following programme of meetings and conferences has been arranged:

Tuesday, April 12.
3 p.m.—London Master Builders and Allied Industries Association.—Reception.

Wednesday, April 13.
4.30 p.m.—Concrete Institute.

Thursday, April 14.
12 o'clock.—Institute of Clayworkers.—Annual meeting.
1 p.m.—Institute of Clayworkers.—Luncheon.
2 p.m.—Institution of Heating and Ventilating Engineers.
3 p.m.—"London in the Time of Henry VIII.," public lecture by Mr. H. A. Cox. Lantern views. Chairman, Sir Banister Fletcher, F.R.I.B.A.

Friday, April 15.
6 p.m.—Public lecture by Professor Beresford Pite, F.R.I.B.A., "The Effect of Building Materials on Architecture."

Saturday, April 16.
3 p.m.—Architects' reception by Mr. J. W. Simpson, P.R.I.B.A., and others.

Tuesday, April 19.
2.30 p.m.—Institution of Municipal Engineers
4.30 p.m.—Marble Workers Employers' Association.
6 p.m.—"Our Towns and Villages, and How We Spoil Them." Public lecture by Mr. Raymond Unwin, F.R.I.B.A.
1.30 p.m.—Concrete Institute luncheon.

Wednesday, April 20.
Royal Sanitary Institute.
National Federation of Building Trades Employers of Great Britain and Ireland.

Thursday, April 21.
3 p.m.—Municipal Engineers' Conference.
11 a.m., 12.15 p.m., 2.30 p.m—Institution of Quarry Managers
11 a.m.—Lecture, "Industrial Efficiency in the Quarrying Industry," by H. N. Casson, Esq., editor of the "Efficiency Magazine." Chairman, Sir Henry P. Maybury, K.C.M.G., C.B.
12.15 p.m.—Lecture, "Industrial Accidents—a Levy on Capital and Wages," by A. Winter Gray, Esq., secretary, Safety First Association.
2.30 p.m.—Lecture, "Crushing and Sifting," by Professor J. W. Hinchley, A.R.S.M., Wh.Sc., F.I.C.

Friday, April 22.
3 p.m.—National Federation of Builders' Merchants Associations.
6.30 p.m.—Architects' public dinner (Pillar Hall).

The exhibition closes on Tuesday, April 26.

The Architects' Welcome Club

The Architects' Welcome Club, under the management of the R.I.B.A., the Society of Architects, and the Architectural Association, will be available for the use of members and their friends. The social functions include a reception by the presidents and councils of the three bodies on April 16, and a public dinner in the Pillar Hall on April 22. There will also be exhibitions of students' work, popular public lectures, and cinema films illustrating building processes and manufacture.

The Concrete Institute

The Concrete Institute has arranged the following fixtures: On Wednesday, April 13, an official visit will be made, members assembling in the Princes' Rooms at 1.45 p.m. for 2.0 p.m. Parties of members will be conducted round the Exhibition by appointed guides under the direction of Mr. A. Alban H. Scott, M.C.I. Arrangements have also been made for Mr. H. Kempton Dyson, M.C.I., to give a lecture at 4.30 p.m. on the same afternoon in the Lecture Hall, dealing with "Building in Concrete."

It is intended also to have a luncheon at the Exhibition on Tuesday, April 19, at 1.30 p.m., price of tickets 6s. each, exclusive of wines, etc. The Right Hon. Christopher Addison, M.P., and Mr. G. Topham Forrest, F.R.I.B.A., Hon.M.C.I. (Superintending Architect of Metropolitan Buildings), will be the chief guests. After the luncheon Mr. A. Alban H. Scott, M.C.I., will speak upon the subject of "Building Bye-laws and Regulations."

Season tickets for the Exhibition can, by the courtesy of Mr. H. Greville Montgomery, be obtained from the secretary of the Concrete Institute, Denison House, 296, Vauxhall Bridge Road, S.W.1.

A visit has been arranged for Saturday, April 16, by the courtesy of the architects, Messrs. Herbert O. Ellis and Clarke, to the new reinforced concrete premises being erected in Sumner Street, Southwark, for Associated Newspapers, Ltd. Members will assemble at 2.45 for 3.0 p.m.

The adjourned discussion on Mr. E. S. Andrews's paper on "Methods of Securing Impermeability in Concrete" will be held in the Council Chamber, Denison House, on Thursday, April 14, at 7.30 p.m.

Following is a preliminary survey of the exhibits in classified order:

Concrete Construction

Henry Wilde, 66 Victoria Street, Westminster, S.W.1, shows power plants for the manufacture of concrete products such as blocks, bricks, roofing tiles, etc.

B. W. Clegg and Son, Ltd., Balmoral Works, Hunslet, Leeds, show the A B C system of concrete construction for the erection of large buildings where the walls are 18 in. and more in thickness.

The Tourba Construction Co., Ltd., 6 Holborn Viaduct, E.C.1, show their continuous air cavity concrete and hollow brick systems of speedy and economic temperature insulation wallage.

Composite Concrete Construction Co., 51 Pall Mall, S.W.1, show a section of walling constructed on the Fidler system in two sections, one completed and the other in its constructional state.

Modern Building Co., Central Chambers, North Street Quadrant, Brighton, show the Doric patent system of concrete construction and the Doric light permanent buildings, suitable for bungalows, schools, garages, etc.

Vickers, Ltd., Vickers House, Broadway, S.W.1, are showing their portable concrete block machine, concrete roofing-tile machine, and concrete partition slab machine, by means of which various types of bricks, roofing-tiles of any desired colour, and hollow or solid slabs for partitions, can be made.

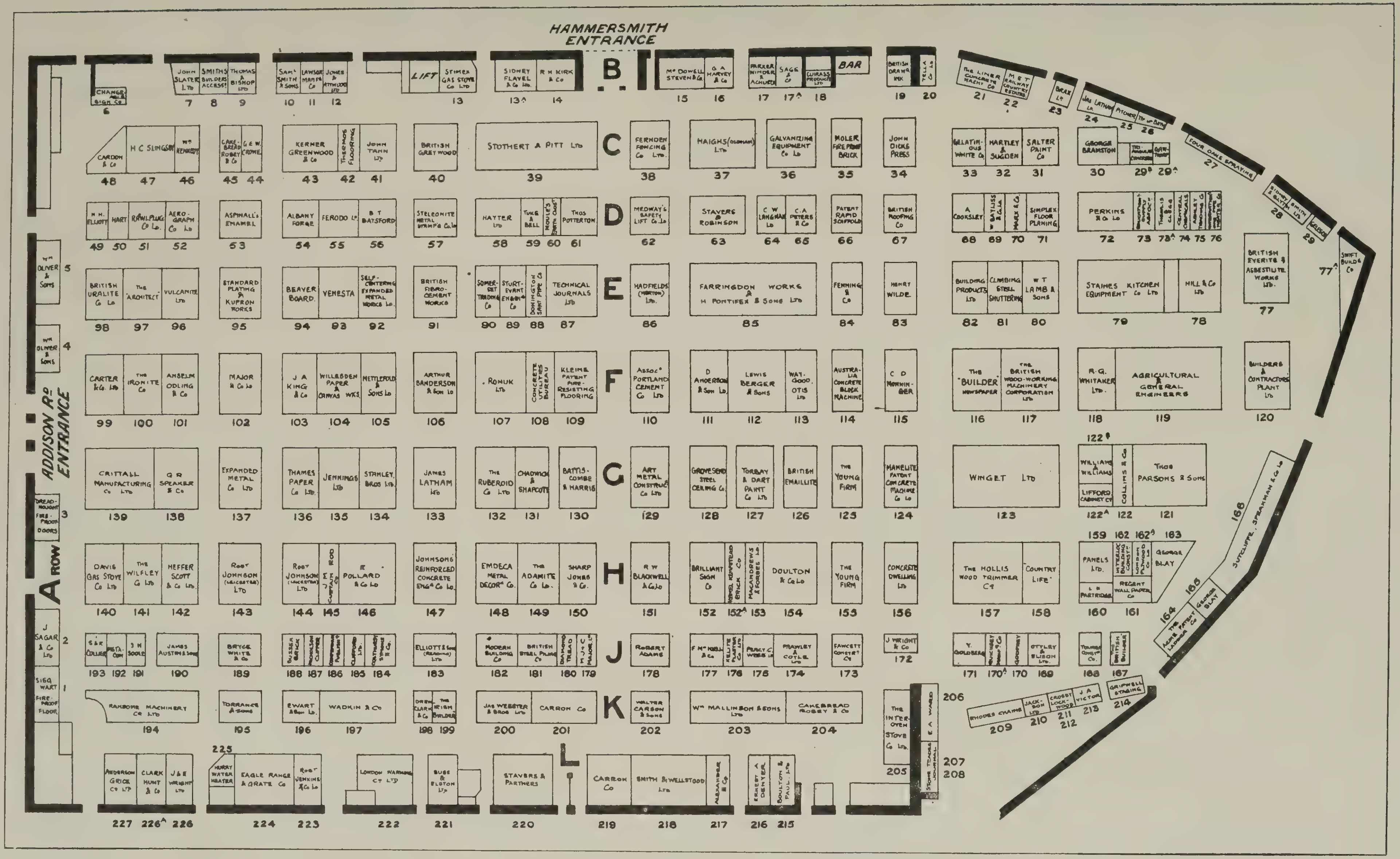
Brown and Tawse, Ltd., 3 London Wall Buildings, E.C.2, show various types of reinforcement, concrete materials, and machinery.

C. R. Building Construction Ltd., 19 Castle Street, Falcon Square, E.C.1, show the C.R. system of pre-cast reinforced concrete, and an exhibit of reinforced concrete railing and fencing posts.

The Martin Harvey Engineering Co., 116 Victoria Street, S.W.1, are exhibiting the Harvey series of concrete block-making machines for all types and sizes of concrete blocks.

Ransome Machinery Co., Ltd., 14-16 Grosvenor Gardens, S.W.1, show their combined drying and mixing machines for making tar macadam and asphalte, concrete mixers, hoisting and placing equipment, tip carts, and steel sheet piling and piling plant.

Parker, Winder, and Achurch, Broad Street, Birmingham, show hand and power models of the Empire concrete mixer, which mixes concrete by machinery for all kinds of constructional work, and the Australia block-making machine, by which it is claimed that one workman can make 400 blocks in an eight-hour day.



Reproduced by arrangement with the "Builder."

PLAN OF THE BUILDING TRADES EXHIBITION, OLYMPIA.

Stothert and Pitt, Ltd., 11 Victoria Street, S.W.1, are exhibiting several types of their Victoria concrete mixers, also their standard Dri-crete concrete block-making machine and standard slab machine for making partition slabs.

R. H. Kirk and Co., Collingwood House, St. Peters, Newcastle-on-Tyne, show the Kirk standard block-maker in many different sizes, and their patent mechanical tamper, adaptable to any concrete machine on the market.

J. A. King and Co., 181 Queen Victoria Street, E.C., show concrete partition blocks, wall blocks, ferro-concrete glazing bar, and "ferro-glass" (ferro-concrete and glass construction).

The Liner-Concrete Machinery Company, Maling Street, Newcastle-on-Tyne, show their patent concrete head, sill, and lintel maker, which the makers claim to be a complete stone-making plant in itself.

Concrete Utilities Bureau, 30 Great St. Helens, E.C.3, will supply at their stand free literature on the manifold uses of concrete, and copies of useful publications will be on sale.

Winget, Ltd., Winget House, Grosvenor Gardens, S.W.1, will give daily demonstrations with an outfit of block-making machines and concrete mixers.

The Climbing Steel Shuttering Company, 515 Queen's Road, Sheffield, exhibit a new system of building concrete walls in situ without wooden shuttering.

Johnson's Reinforced Concrete Engineering Company, Ltd., Lever Street, Manchester, show their specialities in reinforcements, including lattice reinforcement, Keedon fitments, and Brick-tor reinforcement.

Floors

Siegwart Fireproof Floor Company, Thanet House, 231 Strand, W.C.2, show two model floors, and the stand is calculated to convey the impression of a daylight factory, for which class of building the makers claim that the floors are particularly satisfactory.

Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., 133-136 High Holborn, London, W.C., show on their stand a working model which will enable visitors to see the actual process by which their floors are constructed.

The Wilfley Co., Ltd., Salisbury House, E.C.2, will be showing their Marbolith jointless flooring, a composition floor suitable for every class of building. An actual floor is laid and sample slabs showing various colours in which Marbolith can be laid are exhibited.

C. W. Langman, Ltd., Shaftesbury Road, Forest Gate, show various types of composition flooring, suitable for shops, bathrooms, hospitals, etc.

The exhibit of T. and M. Steingold, 23 City Road, E.C.1, consists of the machines and preparations used in the Simplex system for the treatment of all wooden floors or ship decks.

The Thermos Flooring Company, Ltd., 85 North Oswald Street, Glasgow, have on show examples of Thermos composition flooring, a fire and damp-proof jointless and dustless covering for walls and floors.

Heating and Cooking

Smith and Wellstood, Ltd., Bonnybridge, Stirlingshire, have a large selection of stoves and ranges, including several portable types specially designed for Government housing schemes.

The Davis Gas Stove Company, Ltd., 60 Oxford Street, W.1, are showing their patent cast-concrete gas flue blocks, gas mantel register, gas cookers, geysers, and gas-heated water boilers.

Hartley and Sugden, Ltd., Atlas Works, Halifax, are exhibiting a new model of their Heatanbake combination; also a selection of boilers for domestic hot-water supply and central heating.

Clark, Hunt and Co., Ltd., 159 and 160 Shoreditch, E.1, show Bailey's patent "non-pressure" hot-water supply, together with a bath, boiler, and portable range.

Robert Jenkins and Co., Rotherham, are making a special feature of their patent Eco combination boiler and cooker, which will be shown in operation, and are also exhibiting their Kalor and Don independent boilers. A variety of arch and boot type boilers for use with ordinary ranges may also be seen, in addition to several patterns of their special copper and steel cylinders.

Samuel Smith and Sons, Ltd., Beehive Foundry, Smethwick, show the Foresight combination grate, with open and close fire, Trafalgar cooking range, Favourite cooking range, interiors, grates, etc.

The Lawson Manufacturing Co., 323 Caledonian Road, N.1, show the Lawson odourless gas heater in various finishes at various prices.

McDowall, Steven and Co., Ltd., 2 Upper Thames Street, E.C.4, show the Lauristone combination stove and boiler, especially designed for national housing schemes. They also display the Lion patent range, cottage combination boiler and stove, and other cooking and heating specialities.

The Interoven Stove Co., Ltd., 15-16 Charing Cross Road, W.C.2, show the Interoven convertible stove, which can be used either as a cooking stove or as a slow combustion open grate.

Ewarts and Son, Ltd., 346 Euston Road, N.W.1 have a selection of Ewart's geysers, including the Victor, Lightning, and Califont, Industria water-heater, and the Ewart "Emperor" cowl.

The Stimex Gas Stove Co., Ltd., Stimex House, Balham Hill, S.W.12, show a selection of Stimex gas ranges, cookers, and hot-water circulators, embodying the patent Stimex principle of construction.

The Hurry Water Heater Co., 39 Broad Street, Birmingham, show the Hurry cylinder, Baby Hurry, and Hurry furnace, which should be of special interest to housing authorities.

The Patent Tip-up Bath Co., 39 Broad Street, Birmingham, show Darby's patent tip-up bath for use in the scullery. The bath is approved by the Ministry of Health, and is recommended for use in modernising old property.

The Monitor Heating Co. of Great Britain, 9 Victoria Street, S.W.1, show the caloric system of central heating for central heating of small houses without pipes, boilers, or radiators.

Eagle Range and Grate Co., 127 Regent Street, W.1, show a selection of cottage, portable, and other ranges, including the Eagle premier range and the Eagle patent combination grate; also a selection of hearth grates, tiles, and wood mantelpieces.

The London Warming Co., Ltd., 20, Newman Street, W., exhibit the Kooksjoie anthracite range, the "Wifesjoie" one-ring gas-cooker, Record patent boiler, the Dulce Domum combination fireplace, etc.

The Carron Company, 10a, Upper Thames Street, E.C.4, show the Stenhouse grate in operation and a selection of Carron electrical cooking and heating apparatus. A number of electric fires in various finishes are also shown.

Thomas Potterton, Cavendish Works, Ravenswood Road, Balham, S.W.12, has a working exhibit with hot-water radiators and domestic supply apparatus, including Victor gas boilers of various types and sizes, air and water thermostats for automatic regulation of gas and hot water supply apparatus, etc.

The International Onepipe Heater, Ltd., 36, Victoria Street, S.W.1, show a warm air central heating apparatus for houses and public buildings. By this method a complete circulation of warm air is obtained without pipes or radiators.

Jones and Attwood, Ltd., Stourbridge, show the Domestikatum independent boiler for domestic use, the Cultivatum boiler for greenhouse heating, and the Batheater apparatus for continuous supply of hot water.

Iron and Steel

Nettlefold and Sons, Ltd., 54 High Holborn, W.C.1, will have on show a complete range of builders' ironmongery and brass work, including door fittings of all kinds, springs, hinges, locks, and furniture. They are also exhibiting a variety of articles supplied for many housing schemes, and approved by the various authorities.

Sutcliffe, Speakman and Co., Ltd., Leigh, Lancashire, show the Emperor brick and briquette making press and their No. 2 Standard pottery moulding machine, both of which will be seen in motion.

John Tann, Ltd., 117 Newgate Street, E.C.1 (Row C, Stand 43), show their Anchor Reliance burglar and fire-proof bankers' doors and deed and book safes; also their Dreadnought and Invulnerable safes, all of which incorporate the firm's patent anti-explosive and anti-blowpipe devices.

The exhibit of the Expanded Metal Company, Ltd., York Mansions, Petty France, S.W.1, consists of examples of slab work reinforced with Diamond mesh expanded steel, brickwork, reinforced with Exmet hollow and solid partition construction, etc. The company will also exhibit samples of its various products, including the new rotary Diamond mesh expanded steel.

Cakebread, Robey and Co., Caroba Works, Wood Green, N.22, have a special display of builders' ironmongery, and are also showing wood chimneypieces, interiors with brass and copper canopies, barless fires, kitchen and portable ranges, and sanitary goods.

Fawcett Construction Co., Ltd., 47 Victoria Street, S.W.1, show their Mon'lith-crete steel joists and the Edwardian down-draught-preventing chimney-pot.

Agricultural and General Engineers, Ltd., Central House, Kingsway, W.C.2, show a six-ton end tipping trailer, sleeping van, motor roller, steam road roller, and steam tractor.

The British Steel Piling Company, Dock House, Billiter Street, E.C.3, show steel sheet piling, a working model of an automatic pile driving and extracting plant, concrete mixers, and sand and ballast washers.

G. A. Harvey and Co. (London), Ltd., Suffolk House, 5 Laurence Pountney Hill, E.C.4, show an interesting variety of chimney cowls, metal pressings and stampings, piping, tanks, ventilators, etc.

G. R. Speaker and Co., Eternit House, Stevenage Road, S.W.6, show a building constructed on the patent trellit system in various stages. Demonstrations of erection of framework will be given to show the speed with which a building can be framed up.

The Steleonite Metal Stamping Company, Steleonite Works, Old Ford, E.3, will show stamped metal ceilings, plastic metal ornaments, and the Leivis dovetail corrugated steel sheeting for reinforcement for floors.

Rhodes Chains, Ltd., Fairholt Works, Stoke Newington, N.16, show sash fitting specialities, including patent teeth axle pulleys and steel sash chains; also their centre grooved pulleys and One-One link chains as adopted by L.C.C. for housing schemes.

Robert Adams, 3-5 Emerald Street, Holborn, W.1, show a large variety of patent spring hinges, door checks, door springs and furniture, and fittings. They also exhibit fanlight openers, window fittings, panic and emergency bolts, etc.

Albany Forge, Wainwright and Waring, Ltd., 45 Goldhawk Road, Shepherd's Bush, W.12, show artistic metal work in wrought iron and bronze, memorial tablets, stained and leaded glass windows, and steel casement windows. They also exhibit examples of wrought metal work and cast lead and bronze work.

The Crittall Manufacturing Co., Ltd., Braintree, are showing metal windows for every class of building, also folding bronze doors, pivoted ventilators, standard factory sashes, and metal windows of various types for housing schemes.

Hayter, Ltd., St. Dunstan's Works, Hanwell, Middlesex, show stair rods in wood and metal, casement fittings, pressings and stampings, and other specialities incorporating their cam-lever.

Dreadnought Fireproof Doors, Ltd., 46 King William Street, E.C.4, show their Dreadnought fireproof doors, Empire firedoors, and Dreadnought cabinets. All doors are made to hinge, swing, or slide, and close automatically.

The Fairfield Supplies Co., Ltd., 8 Goring Street, St. Mary Axe, E.C.3, show the Skylux patent window openers, comprising patent skylight and fanlight openers, the patent right angle opener, and the patent casement opener.

Metacon Patent Glazing Bar Co., Ltd., 124 Chancery Lane, W.C.2, show a roof glazed on the Metacon patent system with deal bars. By this system of puttyless glazers the makers claim that maintenance costs are reduced to a minimum, while the method will, they say, be found water-tight and dust-proof.

The exhibit of the Art Metal Construction Co., Ltd., 5-11 Holborn, E.C.1, shows the use of steel desks, adjustable shelving counters and fittings, steel doors, partitions, and roller shutters, etc. Fireproof cabinets which have actually stood the test will be shown, and the exhibit further comprises a pair of improved type fire-resisting rolling steel shutters, fire-resisting doors, and various types of the "Reliance" ball-bearing hanger for sliding doors.

Stewarts and Lloyds, Ltd., Broad Street Chambers, Birmingham, have an exhibit of wrought iron and steel lapwelded and solid drawn pipes for steam, gas, water, etc., boiler tubes, steam pipes and pipe joints, etc.

Baldwin's, Ltd., 3 St. Helen's Place, Bishopsgate, E.C.3, show a large variety of galvanised goods, including tanks and cisterns, petrol safes, wall ties, flat and corrugated sheets, guttering, etc., etc.

Gawthorp and Sons, 16 Long Acre, W.C.2, are showing wrought iron work, repoussé work, bronze and brass work, woodwork, and stained glass.

George Blay, New Malden, Surrey, shows bow huts in steel and wood, corrugated steel shelters, steel casements, and expanded metal, etc.

Joinery

Samuel Elliott and Sons (Reading), Ltd., Reading (Row J, Stand 174), show various types of panelling, period mouldings, and veneered work. They also exhibit various types of revolving doors and specimens of church work and floorings.

Boulton and Paul, Ltd., Norwich (Row L, Stand 215), are showing joinery specially prepared for housing schemes, also mahogany and oak doors for better-class work. A portion of their standard wood-framed house, as approved by the Ministry of Health, will be exhibited.

The Young Firm, Ltd., 1, 3, and 5 Virginia Road, E2, exhibit timber, turnery, mouldings, and plywood.

E. Pollard and Co., Ltd., St. John's Square, Clerkenwell, E.C., have an exhibit of hardwood joinery work, air-tight show-cases, "kwikserving" fixtures, and a new type of economy display cases and glass counters.

Partridge's Models, 4 and 5 Mason's Avenue, E.C.2, exhibit true-scale sectional models for architects and contractors. These are made of wood, and are complete in every detail.

Wm. Oliver and Sons, Ltd., 120 Bunhill Row, E.C.1, will have on view a fine parcel of the best European wainscot. A special feature will be a guest-room fitted out in English walnut, exemplifying the use of home-grown timbers.

Robert Johnson and Co., London Road, Leicester, show three rooms completely decorated and furnished in various periods and styles. They include an eighteenth-century bedroom, dining-room of seventeenth-century character, and a study or private office in eighteenth-century style.

The Educational Supply Association, Ltd., Stevenage House, 40-44 Holborn Viaduct, E.C.1, show "Essavian" patents for folding and sliding doors, windows, shop-fronts, partitions, and screens.

Fenning and Co., Ltd., Palace Wharf, Rainville Road, Hammersmith, W.6, show examples of chimneypieces in Adam and Louis XVI. styles. The exhibit also includes examples of carved vases and work in hard slabs of marble and granite.

Battiscombe and Harris, Ltd., 47 New Cavendish Street, W.1, show panelling, doors, staircases, cabinet, and carving, mirror frames, electric light fittings, etc., also fibrous plaster ceilings, cornices, and friezes.

Buss and Elston, Ltd., 2 Northport Street, Hoxton, show their oak panelling, and a mantelpiece, Inglenook frieze, and ceiling decoration, which can be supplied in conjunction with it.

G. Goldberg and Sons, Ltd., 7 Kingsland Road, Shoreditch, are showing plywood in various qualities and thicknesses, and joinery and partitions showing plywood panels in use.

Lifts

Waygood-Otis, Ltd., of 54 and 55 Fetter Lane, E.C.4, have again installed a full-sized passenger lift from the ground floor to the gallery, with collapsible gates, winding machine, and motor, of the firm's own design. They are also showing samples of their various sizes of electric machines and of hand-power lifts. Included in the exhibit are a working model of automatic push-button lift and a number of fittings and accessories suitable for electric or hydraulic lifts.

Medways Safety Lift Company, Ltd., 1 and 2 Bucklersbury, E.C.4, are exhibiting several of their "Britain's Best" electric lifts, including a complete passenger lift in operation, service lifts, both hand and electric, and an electrically-operated friction winch. The firm's patent device for opening and closing lift doors and gates is also shown.

Paints and Varnishes

The exhibit of Lewis Berger and Sons, Ltd., Homerton, London, E.9, consists of four rooms decorated with Matroil, the white woodwork being finished in Enamelac, and the grained woodwork with Scumble transparent graining finished with Berger varnish. Finished panels are shown of other paints and stains manufactured by the firm.

Thomas Parsons and Sons, 315-317 Oxford Street, W.1, show practical applied examples of Parsons' enamels, paints, and varnishes, including Endelline, Endelflat, Unicote, and floor varnish.

Aspinall's Enamel, Ltd., Goodwood Road, New Cross, S.E.14, show a fibrous plaster decorated pavilion, embodying the different materials and colour-schemes produced by the firm. The pavilion will be constructed of eight columns with caps, and will contain private office, lobbies, and screen showing Messrs. Aspinall's various enamels, paints, and distempers.

Hadfields (Merton), Ltd., 63 Regent Street, W.1, are demonstrating two new processes, one an oil polishing varnish and the other a method of producing a gloss paint finish in two coats on bare wood. The firm are also showing their "Heolin" colours and varnishes and black and white "Heolin" enamels.

C. A. Peters, Ltd., Derby and London, exhibit a pavilion, all the wood of which has been treated with Peterlineum wood preservative. They also show "Anti-oxide" varnish and Imperial black varnish for outside ironwork.

Brown and Critchley, Ltd., Beaudexol Works, Lenzie, near Glasgow, show Beaudexol water paint, Beaumatte flat finish, Beaulac enamel, pigment paste, stainers, and body colours, etc.

Messrs. Major and Co., Ltd., Hull, have an exhibit of Solignum wood preservative stain, demonstrating chiefly its uses for interior decoration.

The Gelatinous White Company, Ltd., Filocol Works, Harefield, Middlesex, are exhibiting Filocol distemper in white and colours, in paste and powder form. They also show cold distemper in powder form, putty, and whiting.

The Salter Paint Company, 150 Southampton Row, show Bow Bells brand flat oil paint in white and colours, also enamels, varnishes, ground and dry colours, etc.,

Walter Carson and Sons, Battersea, London, show vitrolite substitute for white lead, muraline, muraprime, japolite, coverine, La Belle enamel, velvarine, aluminium paint, washable paste, distemper, Maurice's porceleine, etc.

The Gelesco Paint Co., Brent Wharf, Brentford, show Gelesco ceiling distempers, and Semesco washable distempers, enamels, paints, liquid driers, etc.

The Aerograph Co., Ltd., show the decorative effects obtainable by the use of the aerograph spray-painting process. Finished panels and portable painting plants are also exhibited.

Sanitary Fittings

Doulton and Co., Royal Doulton Potteries, Lambeth, London, S.E.1, show a selection of sanitary fittings contained in four completely-fitted specimen bathrooms. Lavatories and various types of closets, sinks, and drinking fountains are also seen, as well as a large number of other fittings for use in the building trades.

Tuke and Bell, Ltd., 27 Lincoln's Inn Fields, W.C.2, will show their systems of sewage purification suitable for country-house drainage. Photographs and diagrams of revolving distributors for municipal work will also be on view, and the exhibit will include a working model of the Constable side-tipping trailer.

The Farringdon Works and H. Pontifex and Sons, Ltd., Pontifex House, 43 and 44 Shoe Lane, E.C.4, will have a general exhibit of porcelain enamelled baths, lavatories, closets, and hospital fittings, and will show a Masticon roof and a selection of paints and colours. Special features will be the new patent "Masher" float, and baths and lavatories fitted with valves that require no cleaning.

Roofing

British Fibrocement Works, Ltd., 22 Laurence Pountney Lane, E.C.4 (Row E, Stand 91), show the many "Fibrent" asbestos cement manufactures, including Fibrent roofings, and wall and ceiling materials in the form of flat and corrugated sheets. Their use for flooring purposes is also demonstrated.

F. McNeill and Co., Ltd., Spencer House, 4 South Place, E.C.2, show a large variety of their Lion brand roofing and roof-lining felts. Complete model buildings demonstrate McNeill's combinite system of roofing, and the various uses of Slagbestos are also shown.

Vulcanite, Ltd., Blackfriars House, New Bridge Street, E.C.4, have models illustrating the application of Vulcanite roofing for flat roofs. Rexelite for sloping roofs, Leatherite felts and bitumen sheetings, standard asphaltes, and lead and bitumen damp-courses, and other specialities are also shown.

The Ruberoid Company, Ltd., 81-83 Knightrider Street, Queen Victoria Street, E.C.4, show Ruberoid roofing in two colours. Ruberoid damp-courses flooring, and sarking felt, and also their other specialities, including Pluvex damp-courses and roofing felts, and P. and B. insulating papers and preservative paints.

Colthurst, Symons and Co., Ltd., Patent Tile Works, Bridgwater, show their patent interlocking Roman tiles and Paragon and Acme tiles.

S. and E. Collier, Ltd., Grovelands, Reading, show old English multi-coloured bricks, silver grey and Roman tiles, and various specimens of roofing and ridge tiles.

Robert W. Blackwell and Co., Ltd., 36 Emperor's Gate, South Kensington, S.W.7, are exhibiting their self-finished bitumen roofing felt for waterproofing wood and concrete roofs, bitumen underslating. "Rufal" bitumen roofing felt, and "Kurkee" tarred and sanded felt. They also show bitumen damp-courses and "Linotol" jointless flooring.

H. S. and C. Major, Ltd., the Patent Tile Works, Bridgwater, Somerset, show a wide selection of their patent interlocking Roman tiles, angular, Grecian, Welbeck, and plain tiles. Ridges, finials, and bricks of every description will also be shown, and Bath bricks for polishing purposes.

D. Anderson and Son, Ltd., Lagan Works, Belfast, comprise in their exhibit all classes of "Red Hand" roofing, sarking, and lining felts, and damp-courses. A model of a Belfast lattice girder roof, covered with Rok roofing and wood fencing, treated with Sidol wood preservative, are also shown.

British Roofing Co., Premier House, 150 Southampton Row, W.C.1, show the Alligator asbetic slates, wall and ceiling sheets in three colours, natural, blue, and red. Asbetic corrugated sheets and pure bitumen roofing will also be exhibited.

British Everite and Asbestilite Works, 29 Peter Street, Manchester, are demonstrating the various uses of Everite and Asbestilite Asbestos cement products, including corrugated and sheeting, flat building sheets, roofing slates, tiles, etc. Everite rainwater goods are also shown.

Economic Eaves Co., 9 Southampton Street, Bloomsbury, W.C.1, show a simple reinforced concrete form of construction designed to minimise the high cost of construction at the eaves of roofs.

Walls and Ceilings

The Willesden Paper and Canvas Works, Ltd., Willesden Junction, N.W.10 (Row F, Stand 104), are demonstrating the principal uses of Willesden paper as underlining and underslating. The use of the 4-ply paper in place of tin or sheet iron will also be shown.

The stand occupied by Moler Fireproof Brick and Partition Company, Ltd., Vickers House, Broadway, Westminster, will be constructed of Moler insulating bricks and slabs, showing a special system of bonding. Samples of the various types of bricks and blocks manufactured by the company will also be on view.

The Xelite Plaster Company, Ltd., 56 Buckingham Gate, S.W.1, are exhibiting Xelstone for the refacing of old buildings and Xelite plaster for internal plastering in place of Keene's cement.

MacAndrews and Forbes, Ltd., 65 South Molton Street, W.1 (Row H, Stand 153), show Fiberlic and its various applications to walls and ceilings. The board, which is manufactured from tough roots chemically treated, is strong and fire resisting, as well as being sound-proof and a non-conductor of heat or cold.

The Beaver-Board Company, Ltd., 133-136 High Holborn, W.C.1, show on their stand the various steps in the application of Beaver-Board, as well as a completely finished and decorated Beaver-Board room. Other Beaver products, such as Black and Green Board, Quality Paints, and Quality Roofing will also be shown.

The Grovesend Steel Ceiling Company, 29 Great St. Helen's, E.C.3, show their "Ornastele" stamped steel plates, which can be used for ceilings, dadoes, mouldings, etc., and, it is claimed, are economical, hygienic, fire resisting, and permanent.

The Regent Wallpaper Company, Regent House, Fitzroy Square, W.1, show their specialities in wall decorations, including handworked decorative panels and fillings, and specialities in original designs in nursery decorations.

Heffer, Scott and Co., Ltd., 21 and 56 Berners Street, W., show specialities in machine and hand-printed wall papers, also an exhibit of "Keystonia" flatted oil paint.

Thames Paper Company, Ltd., Purfleet, Essex, are exhibiting "SX" board for interior linings for ceilings and walls. The board is British made and will take paint, distemper, varnish, etc., without special treatment. It has been approved by the Ministry of Health.

Carter and Co., Ltd., Encaustic Tile Works, Poole, are showing wall-tiling for exterior and interior of shops, hospitals, and domestic offices, floor tiles for all purposes, and marble and faience ware.

Emdea Metal Decoration Co., Ltd., 97 Queen Victoria Street, E.C., show Emdea enamelled wall and ceiling tiles on zinc for kitchens, lavatories, larders, shops, hospitals, etc.

The Hemel Hempstead Patent Brick Co., 326 Gray's Inn Road, W.C.1, show their hollow partition blocks, which are made in all thicknesses and are guaranteed fire-resisting to the melting-point of steel.

Venesta, Ltd., 1 Great Tower Street, E.C.3, show Venesta plywood for panelling and partition work and oak plywood for period panelling.

James Webster and Brothers, Ltd. Dashwood House, 9 New Broad Street, E.C.2, are exhibiting Upson processed board for the construction of walls and ceilings in various thicknesses and patterns. They are also exhibiting flooring specialities in hardwoods and softwoods, quartered and plain oak and Carolina pine in boards. Methods of fixing and laying are shown by practical demonstrations.

British Uralite Co., 8 Old Jewry, London, E.C.2, are exhibiting a garage constructed of asbestone sheets and roofed with asbestone tiles and corrugated cement sheets.

Waterproofing

Cuirass Products, Ltd., 69 Victoria Street, S.W. (Row B, Stand 18) show by a practical demonstration the effects of applying their waterproofing material. They are also showing a wood preservative which they claim to be superior to creosote.

The Adamite Co., Ltd., Regent House, Regent Street, are showing Anti-hydro, a liquid chemical compound for waterproofing cement. Illustrations of installations in America and Great Britain in which Anti-hydro has been used will also be on view.

Kerner-Greenwood and Co., Ltd., King's Lynn (Row C, Stand 43), exhibit apparatus and models demonstrating the practical application of Pudlo brand cement waterproofing powder. Concrete tanks, dampcourses, etc., will also be shown.

The Waterex Co., Ltd., 329 High Holborn, W.C.1, are showing Waterex liquid waterproofing for use on concrete, brick, stone, etc., and Waterex liquid stucco for exterior plastering.

Building Products, Ltd., 6 Columbia House, 44-46 King's Road, Sloane Square, S.W.3, have a waterproofing exhibit and demonstration showing the properties of Bareau powder, Prufit paste, and Prufitol liquid for waterproofing concrete, and are also showing Ferrolithic concrete hardener.

The Torbay and Dart Paint Company, Ltd., 26-28 Billiter Street, E.C.3, are exhibiting a tower 36 ft. high decorated with the firms' products. These include Novoid concrete proofer, Everok waterproofer, Rencrete weatherproofer, Quelle flameproofer, and Aurora washable distemper.

The Ironite Company, Ltd., 11 Old Queen Street, Westminster, S.W.1, show Ironite Brand cement for flooring, which, the makers claim, will render floors wear-proof, dustproof, and waterproof. They are also exhibiting Ironite slurry or grouting, Aero concrete blocks, and Watson tractors, trailers, and dumping wagons.

Super-Cement, Ltd., 10 Upper Woburn Place, W.C.1, exhibit vessels made of super-cement, and sand and trays waterproofed by brushing over the inside with a slurry of super-cement are also shown.

Wood and Wood Working

Dadkin and Co., North Evington, Leicester (Row K, Stand 197), show dimension saws, saw benches, surfacing machines, and other woodworking machinery.

Perkin and Co., Ltd., Leeds (Row D, Stand 72), have an interesting exhibit of woodworking machinery, including several sizes of newly-designed ball-bearing saw benches, horizontal boring and slot mortising machine, range of bench trimmers, bench type, planers, etc.

J. A. Victor, 31 Budge Row, E.C.4 (Row K, Stand 213), show the La Rivete patent cutter block for wood-planing machines and other woodworking machinery.

Wm. Mallinson and Sons, Ltd., 130-138 Hackney Road, E.2, show specimens of choice hardwoods, veneers, and ply-wood for all constructional and decorative purposes.

James Latham, Ltd., 124 Curtain Road, E.C.2, show examples from their timber stocks, including mahogany, oak, teak, 3-ply panels, and fibre wood carvings.

T. W. Palmer and Co., Merton Abbey Ironworks, Merton, S.W., show chestnut paling, iron and wire fencing, gates, hurdles, and tree-guards.

Miscellaneous

The Anderson Grice Company, Ltd., Taymouth Engineering Works, Carnoustie, show the Anderson Simplex cross-cut saw, especially intended for fast and accurate cutting of stone, marble, slate, etc.

Builders' and Contractors' Plant, Ltd., 15 Victoria Street, S.W.1, are exhibiting a collection of labour-saving machines and devices, including the Exe hoist, Fircrite timber clip, Roll concrete mixer, etc.

The Diamond Tread Co., Ltd., 28 Victoria Street, S.W.1 (Row J, Stand 180), are showing their non-slipping treads and tiles in grooved or Hygienic sections.

John Slater, Ltd., 7 East India Avenue, E.C.3, show the 5 b.h.p. Rackham engine for general contractors' work, wood-sawing, driving machine tools, etc.

The Cement Marketing Co. (Row F, Stand 110) show samples of the company's brands of Portland cement, in all stages of manufacture; testing apparatus, hydraulic crushing machine, etc.

Sturtevant Engineering Co., Ltd., 147 Queen Victoria Street, E.C.4, are exhibiting their turbine vacuum cleaning plants, suitable for use in all classes of buildings. The plants are of all sizes, and various types of ventilating fans are also shown.

Percy C. Webb, Ltd., St. Katherine's Docks, London, show a selection of coloured marbles in polished slabs, including some of the less well-known varieties, such as Bryscom and Carso Blue.

British Canadian Export Co., Ltd., 83 Pall Mall, S.W.1 (Row C, Stand 44), show a complete kitchen-scullery demonstrating the space-economy and labour-saving effected by the use of the Easiwork kitchen-dresser and Barnet refrigerator.

The Brilliant Sign Co., 1907, Ltd., 38 Gray's Inn Road, W.C.1, show signs of all kinds, including the original Brilliant letter for facias, stall-plates, tablets, windows, etc. Various styles of show-cases in hardwood and metal are also shown.

James Austin and Sons, Ltd., St. George's Mills, Hoxton, N.1, show all classes of plaited cords and Anchor brand specialities.

The Rawlplug Co., Ltd., Lenthall Place, Gloucester Road, South Kensington, S.W.7, show Rawlplugs, a patent fibre plug, for fixing screws in plaster, brick, marble, tiles, etc.

The Patent Rapid Scaffold Tie Co., Ltd., 43 Lansdowne Road, Stockwell, S.W.8, will hold daily demonstrations of Scaffixer scaffold ties, patent tubular scaffolding, and tubular crane stagings.

Ferodo, Ltd., Sovereign Mills, Chapel-en-le-Frith, are showing specimens of Ferodo fibre stair treads and new Feroleum nosings which can be supplied to fit any size of step, and can be fitted easily to wood, stone, iron, or marble.

Technical Journals, Ltd., 27-29 Tothill Street, S.W.1, show a wide selection of architectural books and periodicals, including the newly-published "Art of E. A. Rickards" and the 1921 edition of "Specification."

The Changeable Sign Co., Ltd., Chippenham Works, Shirland Road, W.9, show a full range of their "Unit System" and "Economic" signs.

The exhibit of Brax, Ltd., Balfour House, 119 Finsbury Pavement, E.C.2, is designed to illustrate the advantages of the Discon miniature incandescent gas-light, which, it is claimed, affords efficient illumination with a minimum consumption of gas.

"Metro-Land": General Offices, Baker Street, W.1, deals with the development of the company's estates, including road planning, drainage schemes, and house-architecture.

The "J. M." Curtain Rod Co., Campbell Yard, Leicester, show their patent curtain rod in two sizes, also Flexoid curtain rods and "Oloopo" curtain tapers.

Ronuk, Ltd., Portslade, Sussex, illustrate in a practical manner the results of the company's methods of polishing woodwork and flooring of every description.

Stanley Bros., Ltd., Nuneaton, show glazed bricks, pipes, sinks, chimney pots, etc.

Central Chemicals Ltd., 8-10 Little Suffolk Street, S.E.1, have an exhibit of Certus cold-water glue, and demonstrations will be given of its strength and tenacity.

The "Quicksey" Cabinet Manufacturing Co., 30 Cromwell House, Fulwood Place, High Holborn, W.C.1, show the Quicksey kitchen cabinet, which is designed to resist the wear-and-tear of kitchen use, and is made for appearance and utility.

Wettern Brothers, Ltd., The London Granite Co., Ltd., and Aylesford Sand Co., Ltd., 16 Water Lane, E.C.3, show granite kerbs and setts for architectural, engineering, and monumental work, Porphyry macadam, sand for building and glass-making, Scriæ paving blocks, etc.

Bristowe and Co., Ltd., 11 Tothill Street, Westminster, are showing Tarvia for construction and surface treatment of roads, "Cantaro" hand-spraying machines, "Cuteline" preservative compound, and Robbins "non-set" plastic cement.

The Ministry of Labour, St. Ermin's, S.W.1, is exhibiting carpentry, joinery, plumbing, plastering, etc., carried out by their trainees, and the object of the exhibit is to secure more active support from the employers of building trades labour by giving them an opportunity of studying the scheme of training carried out in the Government instructional factories.

Millar's Timber and Trading Co., Ltd., Pinner's Hall, E.C.2, show a comprehensive selection of British and American machinery, including saw benches, pumps, builders' lifts, concrete mixers, etc., etc.

Limmer and Trinidad Lake Asphalte Co., Ltd., 82 Victoria-street, S.W.1, show specimens of asphalte and their application and models showing asphalte in various forms as laid.

Newspaper Press Fund

A record programme has been arranged by Mr. George Robey for the great matinee concert for the Newspaper Press Fund, to be held at the London Coliseum on Sunday, April 10. The artistes who have already promised definitely to appear include Sarah Bernhardt, Miss Constance Collier, Mr. Charles Hawtrey, Mr. John Coates, Mr. William Murdoch, Mr. Edmund Gwenn, and the Gresham Singers. Mr. George Robey himself has entered into the arrangements with all his usual enthusiasm, and surprises are promised. A feature of the afternoon will be a souvenir programme, which is to be illustrated with original sketches by the most prominent newspaper and magazine artists and cartoonists, including "Poy," Heath Robinson, John Hassall, Leo Cheney, Tom Webster, Matt, etc. Tickets can be booked now at the Coliseum and at all the advance booking agencies.

Publications Received

Standard Notation for Engineering Formulæ. By W. Noble Twelvetrees, M.I.Mech.E., M.Soc.C.E. (France), A.M.I.E.E. The St. Bride's Press, Ltd., 24 Bride Lane, E.C.4.

Northern Polytechnic Institute

The students of the Department of Architecture, Surveying, and Building at the Northern Polytechnic have held an exhibition of work in the large hall of the institute. This exhibition, the largest and most important ever held by the department, covered the work of all sections of the school, including the school of architecture, school of surveying, and school of building, senior day and evening sections; school of building crafts, junior day and evening sections.

The outstanding feature of this school is the co-ordination of the work of the architect, the surveyor, the builder, and the craftsman. The architectural section exhibited work which showed a considerable degree of accomplishment. There are a number of students who have a sound idea of design and planning of buildings. Draughtsmanship and design have shown immense strides in the last twelve months, and are raising the general level of the work to a high standard.

Amongst the work of the senior day school Mr. William Sadler showed the design for a bridge with which, in conjunction with a measured drawing, he won the British Institution Scholarship, 1920. The conditions provided for a bridge over a piece of ornamental water, the water being a foot only below the level of the banks, and it was therefore necessary to design the promenades or embankments at a higher level to obtain the necessary headroom for the bridge. The main features are domed pavilions placed at each end of the bridge and well planned without obstructing the roadway. The balustrades and staircases leading from the level of one embankment to the other are conveniently arranged, and lead up to the main portion of the design.

Mr. G. T. Heard showed a design for a pair of town houses which had been carefully worked out. The plan is well considered and carefully arranged, but the elevation is a little dull. His half-inch detail of a cinema shows better draughtsmanship and a more strictly classical rendering. As a study of Italian Renaissance work this is quite interesting.

Mr. N. T. Joyce exhibited a design for a cinema of a Georgian type which, however, possesses points of interest of its own. It is interestingly displayed and well planned. His town houses showed careful study.

Mr. L. G. Beaufoy showed a severe elevation for a town house which obtained favourable comment from Professor Richardson. Some sound drawings were exhibited by Mr. Loveday, Mr. Monk, Mr. Rose, and others. The best composition in classic ornament was that by Mr. Mead, but was weak in drawing.

The outstanding artist of the exhibition was Mr. Filbey, whose poster in blue and white, with an Ionic cap and good lettering, was one of the best pieces of free design in the show.

Amongst the builders, Messrs. Cross, Henwood, and Aldridge showed commendable work. Noticeable work in other sections was that of Mr. C. W. E. Brown (structural engineering) and Messrs. Ord, Pearson and Fricker (surveying). The craftwork of the junior school deserves special notice, especially the sections devoted to painting, plumbing, and masonry letter cutting. It is perfectly evident that this school is training boys who are fit to enter the highest class of work in each of the building crafts. A great feature of the craftwork is the fact that it is all carried out under, as nearly as possible, practical conditions.

Several notable speeches were delivered in the course of the evening. Professor Richardson conveyed a masterly impression of the requirements of architecture in a brilliant ten-minute dissertation. He emphasised the need of simplicity in design, and the fact that this is an outstanding feature of all the architectural masterpieces of the world. He pointed out that only the widest possible knowledge could make a building of simple elements a masterly work.

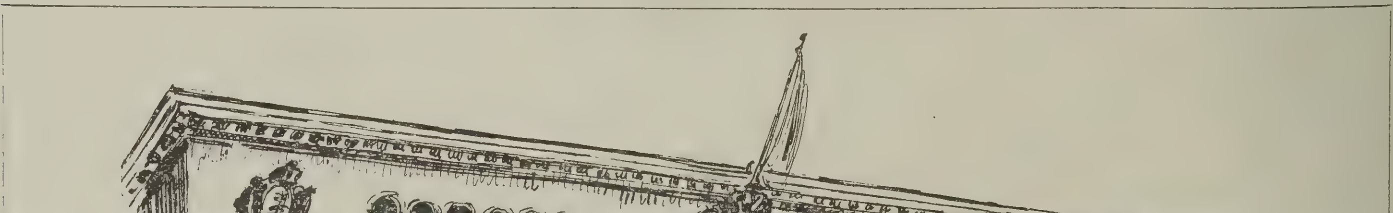
Sir William Wells, who is building up the college of estate management to coordinate the system of education for surveyors throughout the country, deprecated the prevalent practice of cramming which is almost universal in connection with the F.S.I. examination.

Mr. F. J. Gayer, a past-president of the Federation of Master Builders, emphasised the need for education amongst both master builders and craftsmen, and pointed out that the conditions of building since the war had become so difficult and the competition so keen, that the builder could no longer depend upon rule of thumb methods, and the craftsmen could no longer have merely a superficial knowledge of his craft.

Mr. Hugh David, Inspector of Architectural and Building Schools under the Board of Education, congratulated the head of the department and the governors of the institute upon the extraordinary growth of the department in the last twelve months, and upon the amount and ability of the work displayed.

A vote of thanks to the foregoing speakers was proposed by Dr. Reginald S. Clay, B.A.D.Sc., the principal, and seconded by Mr. T. P. Bennett, the head of the department.

Mr. Bennett mentioned that the number of students attending the day and evening schools had risen very considerably since



SKETCH DESIGN FOR A CITY FAÇADE. BY STANLEY C. RAMSEY, F.R.I.B.A.

1913. He also drew attention to the fact that there were, in addition, a number of apprentices who attended one day per week. He emphasised the efforts that were being made to frame the teaching in each section so that it would approximate as nearly as possible to the work that each ex-student would execute in the office or the workshop. As the school advanced he hoped they would be able to design buildings in the architectural school and later make working drawings of them; to pass those drawings to the surveyors to prepare quantities and estimates; to the builders for working details and constructional drawings; and to the craftsman for the execution of portions of the work in joinery, plumbing, painting, decoration, etc.

The speeches were followed by a concert given by the Northern Polytechnic Amateur Operatic and Orchestral Society, under the direction of Mr. Charlesworth, and by a dance.

The Victory Scholarship, 1921

The Victory Scholarship, value £100, and the Gold Medal of the Society of Architects, is open to any British subject, male or female, below the age of thirty-five years, and will consist of designs in architectural composition. There is no entrance fee. The preliminary *esquisse* competition will be held in London and local centres to be arranged on Saturday, June 4, and the *esquisse* for the final competition will be held in London on Saturday, June 25. Entries close on May 2, and intending competitors may obtain an entry form and full particulars from the Secretary of the Society of Architects (Mr. C. McArthur Butler), 28 Bedford Square, W.S.1.

Tredegars' Staff Dinner

The spirit of cordiality and good feeling which frequently exists nowadays between the heads of large commercial undertakings and their subordinates was well exemplified at the inaugural dinner recently given at the Florence Restaurant by the directors of Tredegars, Ltd., when members of the staff were invited to meet Mr. Norman E. Bartlett, the newly-appointed chairman and governing director of the company.

Mr. Alex. Maclean, M.A., V.P.R.B.A. (a director of Tredegars, Ltd.), occupied the chair, and among the numerous guests present, in addition to Mr. Norman Bartlett, were Sir Herbert Bartlett, Bart., Mr. Dudley Bartlett, and several representatives of the technical and lay Press.

At the conclusion of the dinner the chairman, in proposing the Royal toast, mentioned that Her Majesty the Queen had visited the company's showrooms in Brook Street on several occasions, and was always extremely kind and gracious.

The next toast—"Tredegars"—was also proposed by Mr. Maclean, who referred to the irreparable loss the company had sustained by the tragic death of its late governing director, Mr. Arthur Bartlett.

Adopting naval metaphor, Mr. Maclean said that Tredegars in its inception was quite a small craft. She was a light cruiser—an "electric light" cruiser, in fact—and her trial trip took place under the command of a most distinguished commodore, Sir Herbert Bartlett. The good ship "Tredegars" very soon discovered the nature of the mission she was destined to carry out, and after successfully surmounting various initial difficulties she was converted into a ship of the Line. But she still flew the flag of her commodore, Sir Herbert Bartlett, and to-day, having proved her seaworthiness by her behaviour during the squalls she has encountered she is scudding the high sea in gay fashion. Continuing in this vein, Mr. Maclean made appreciative references to the "officers," and singled out for commendation the several gentlemen who occupy positions as heads of departments. The speaker, in coupling the name of the guest of the evening with the toast, expressed on behalf of the company the pride which all felt in the new governing director who had been appointed by Sir Herbert.

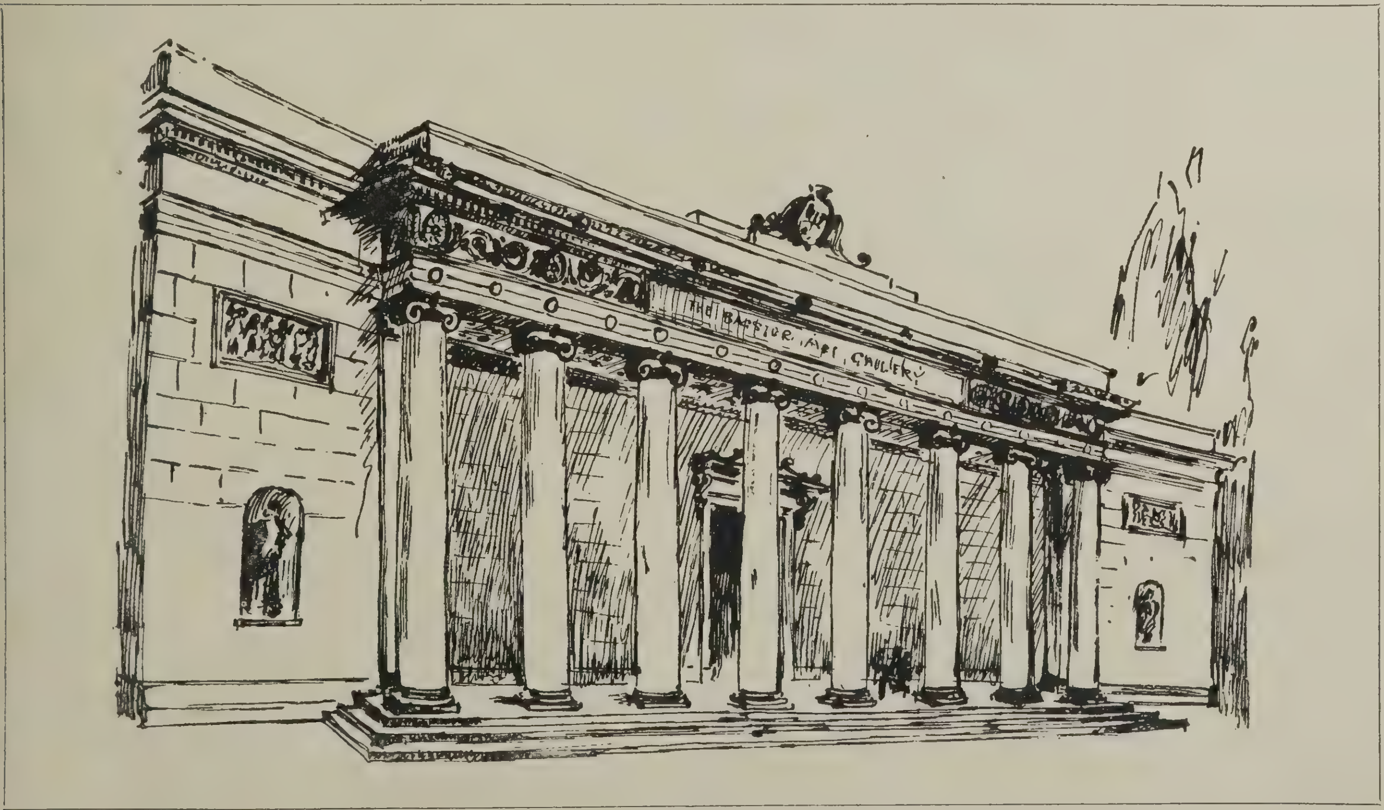
Mr. Norman Bartlett, responding, spoke feelingly of the responsibility of the position in which he found himself, and appealed to all the staff to co-operate with him and help him to make Tredegars a big success.

Even in the Victoria Street days, he went on to say, the company did very distinctive work. It was, he was convinced, upon this standard of excellence that Tredegars' present reputation had been built, and he was quite sure it was the desire of everyone connected with the firm to live up to it, and maintain it by personal effort at the highest level possible.

After Mr. Dudley Bartlett had briefly responded on behalf of Sir Herbert, Mr. H. H. Millett, director, proposed the toast of the visitors.

Civic Education League

The Civic Education League is arranging four courses of lectures, to commence on April 27, on social subjects during the summer term. These will be given by kind permission of the National League for Health, Maternity, and Child Welfare, at 4 Tavistock Square, W.C.1. The lecturers are Miss Nora March, B.Sc., and Mr. G. H. Green, D.Sc., B.Litt. For full particulars of the courses apply to Miss Margaret Tatton, Secretary, Civic Education League, Leplay House, 65 Belgrave Road, S.W.1.



SKETCH DESIGN FOR AN ART GALLERY. BY STANLEY C. RAMSEY, F.R.I.B.A.

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters.

Answers to enquiries are in all cases the work of experts; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur.

Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given.

Examination questions cannot be answered.

It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication.

Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Prices of Building Material and Labour.

H. S. writes: "(1) What was the price in May, 1918, of cement delivered in Birmingham, and what is it at the present time? (2) Could you also tell me the comparative rate for rough labour during the same period?"

—May, 1918: (1) Cement about 68s. to 70s. on job in Birmingham (price according to accessibility of site). (2) Up to May 31, 1918, labourers, 11¾d. per hour; bricklayers, 14¾d. per hour. After May 31, 1918, labourers, 1s. 1d. plus 12½ per cent.; bricklayers, 1s. 4d. plus 12½ per cent.

March, 1921: (1) Cement about 88s. to 93s. on job, as above. (2) Labourers, 2s. 1d. per hour; bricklayers, 2s. 4d. per hour.

"Rift Sawn" Flooring.

W. P. J. writes: "What is meant by 'rift sawn,' as applied to wood block flooring, and what is a 'rift saw'? Why is it difficult at the present time to obtain 'rift sawn' wood blocks?"

—"Rift sawn" refers to the method of conversion from the log, and is one of the methods generally termed "quarter cut," or "cut on the quarter." It shows up the medullary rays of the wood and gives a harder wearing board or block than the ordinary method of conversion. There should be no difficulty in obtaining this material. There is no such tool as a "rift saw."

Summer School of Civics

The Summer School of Civics, organised by the Civic Education League, is to be held this year at Guildford (Surrey) from July 30 to August 14. The local education authority at Guildford, and the Surrey Education Committee, are co-operating by placing accommodation at the disposal of the school, which will also have the advice and assistance of a local committee. The organisation at the league headquarters will be in the hands of the committee responsible for last year's school, with some additions, the chairman being, as formerly, Mr. Alexander Farquharson.

The programme of studies is being extended and enlarged as a result of last year's experience, and will give students oppotunities of getting into touch with recent developments in nearly every department of social science. The promotion of good citizenship through every educational means is the central aim of the school, but the attempt will be throughout to relate every branch of social study to this aim. Plans are being made for a detailed survey of Guildford and its region, especially in their social and economic aspects, both present day and historical.

The courses will be adapted to the needs of training college lecturers, teachers in elementary, secondary, and day continuation schools, social workers (including health workers), lecturers on citizenship, and other social topics, organisers, and social students. Full particulars may be had from the Secretary, Miss Margaret Tatton, Leplay House, 65 Belgrave Road, Westminster, S.W.1.

High Cost of Building in Scotland

At a meeting in Edinburgh of the Government Committee of Enquiry into the High Cost of Building Working-Class Dwellings in Scotland, the senior partner of a prominent firm of timber importers said that the increase in the cost of timber was caused, apart from the interference of supplies by the war, by Government control, war rates of wages, and trade union restrictions. There was, he said, more than sufficient timber in the country to provide for all the houses required. Messrs. McTaggart and Law, surveyors under the Scottish Board of Health, submitted that the savings effected by the issue of the general specification and scrutiny of priced schedules had resulted in an average saving of £200 per house. On the 19,137 houses for which tenders had been approved by the Board this represented a saving to the State of over three and three-quarter million pounds.

Weekly Housing Report

The Housing Bill now before Parliament contains a clause authorising the payment of the grant to private builders until the end of June, 1922. This will almost certainly lead to a revival of private building. Already 30,728 certificates have been issued to builders, and 11,115 houses have been completed under the terms of the grant. Out of the original sum of £12,000,000 earmarked for payment of the grant in England and Wales the Government commitment now stands at £7,398,479.

New housing schemes submitted to the Ministry of Health during the week ended March 18 numbered 20, bringing the total number of schemes submitted to 11,481. The schemes approved now number 9,016 and comprise about 57,630 acres. Twenty-eight lay-out schemes were submitted and 37 were approved during the week, bringing the total number of lay-out schemes submitted to 7,440 and the number approved to 6,882.

House plans representing 650 houses were submitted and plans for 327 houses approved. The total number of houses represented in all plans now submitted is 293,853, and in the plans approved 274,970. During the week tenders were submitted for 1,061 houses. Tenders for 290 were approved, bringing the total number of houses in tenders submitted to 190,484 and in tenders approved to 175,855. Contracts have been signed for 153,414 houses.

Trade and Craft

Broad Flange Beams.

Messrs. R. A. Skelton and Co. have laid down a stock of their broad flange beams, grey process, at Millwall. The following sizes are stocked in lengths of 20 to 40 feet—5½ in., 7 in., 8 in., 8½ in., 10 in., 11 in., and 12 in.

G.E.C. Change of Address.

The head office, sales departments, and stores of the General Electric Company, Ltd., have moved to Magnet House, Kingsway, London, W.C.2. New telephone No., Regent 7050 (fifty lines). Telegrams, Electricity, Westcent, London. Until further notice the showrooms of the company will remain at 67 Queen Victoria Street, City, E.C.4.

Simplex Lighting Fixtures.

Messrs. Simplex Conduits, Ltd., have sent us a copy of their lighting fixtures booklet (No. 860), which contains a typical selection of 1921 designs in Simplex fittings. The illustrations given should be of great assistance in selecting fittings for any scheme of decoration or furnishing. Designs for all purposes—offices, public buildings, libraries, studies, dining rooms, ball rooms, etc., are shown to suit all tastes.

Technical Advertising.

"Originality in Technical Advertising" is the title of an interesting illustrated booklet just issued by the Ernest Ingram Hill Technical Advertising Service, of 29 Ludgate Hill, London, E.C.4. The aim of this service, which is responsible for the entire publicity of many prominent concerns in the engineering, building, motor, and allied trades, is to invest each client's advertising with distinct individuality, and to make the announcements of each client different to those of his competitors and easily recognisable.

Pinchin, Johnson and Co., Ltd.

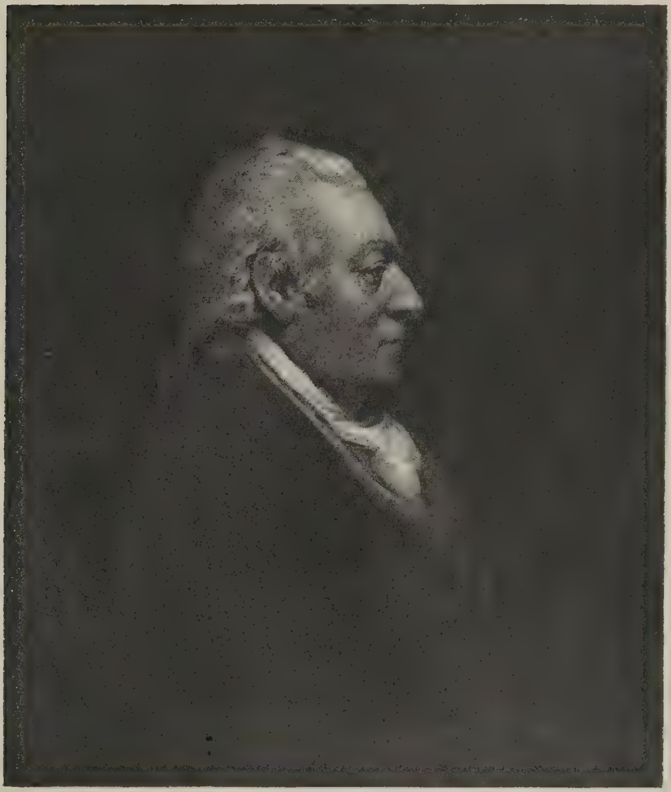
The annual general meeting of the shareholders of Pinchin, Johnson and Co., Ltd., has been held under the chairmanship of Mr. Edward Robson. The net result, after providing for all expenses, depreciation, income tax, excess profits, and corporation profits tax, showed a net profit of £72,282 4s., which added to the amount of £4,641 14s. 8d. brought forward from December 31, 1919, gave them a net available balance of £76,923 18s. 8d. The chairman recommended a final dividend of 6½ per cent. per annum for the half-year on the 6½ per cent. cumulative preference shares, making 6½ per cent. for the year, and a final dividend of 10 per cent. actual on the ordinary shares, making, with the interim dividend of 5 per cent. paid in July last, 15 per cent. for the year. After paying 15 per cent. on the ordinary shares, less income tax, there remained £29,087 13s. 4d., which the chairman recommended be disposed of by the allocation of £10,000 to the reserve, £8,500 to be written off preliminary expenses of the new capital issue, and to carry forward the sum of £10,587 13s. 4d. to the 1921 accounts. During the year the company had extended its operations in every market of the world, and in output, volume of sales, and net profits the results constituted a record. The retiring directors were unanimously re-elected, and Messrs. Gully, Stephens, Baillie and Co., chartered accountants, and Messrs. Broads, Patterson and Co., chartered accountants, were elected joint auditors of the company for the ensuing year.

Wednesday, April 13, 1921

Volume LIII. No. 1371

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



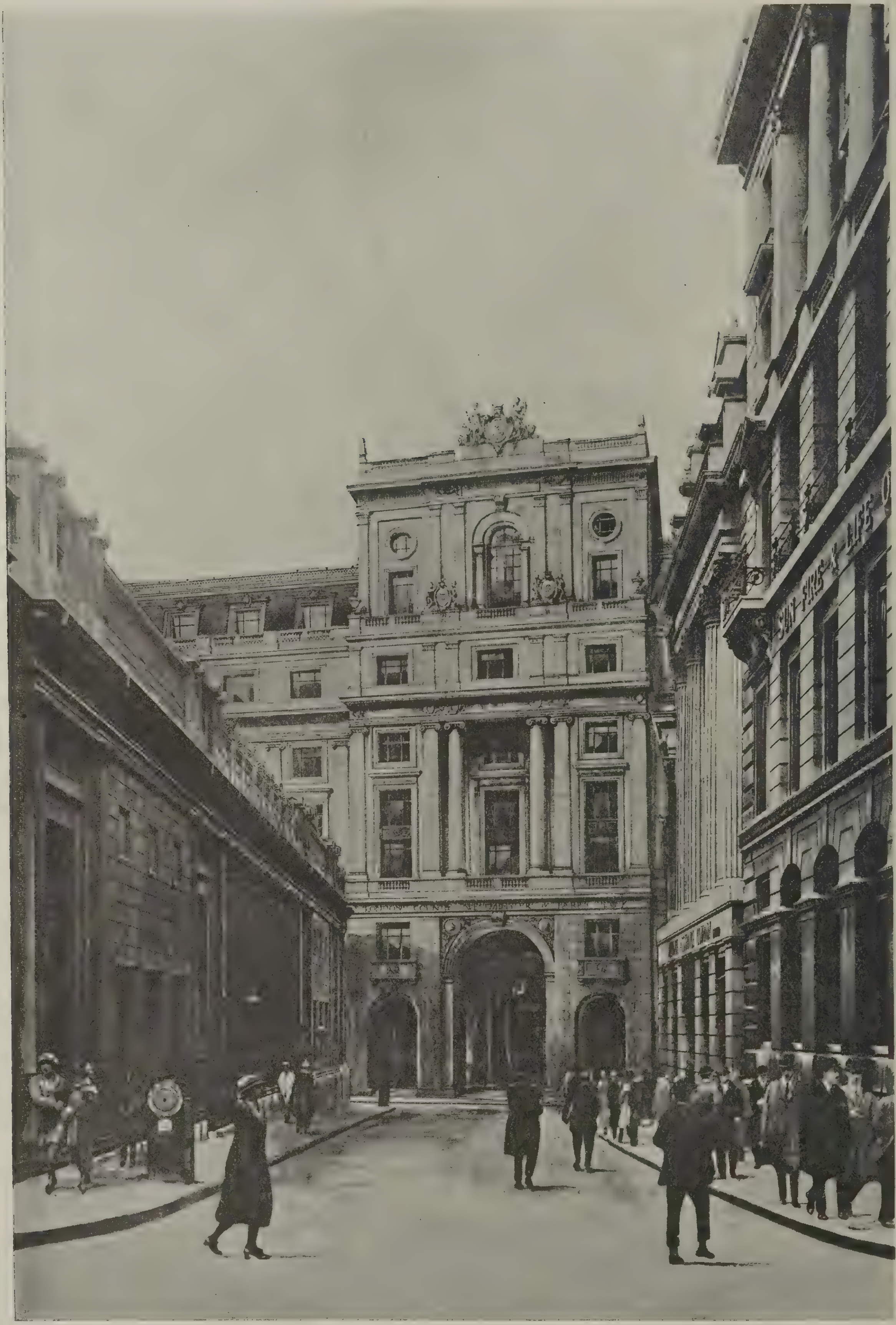
JAMES WYATT (1746-1813).

James Wyatt was born at Burton Constable, Staffs. His early skill in drawing brought him to the notice of Lord Bagot, who took him to Rome to study architecture. He returned to London about 1766, and in 1770 was elected A.R.A. His professional popularity dates from the adaptation to dramatic purposes of the Old Pantheon in Oxford Street (1772). For many years he was regularly employed in the erection of mansions throughout the country in the Græco-Italian style. In 1778 he was appointed Surveyor of Westminster Abbey. He also restored Salisbury and Lincoln Cathedrals. Made R.A. in 1785, he succeeded Chambers as Surveyor General to the Board of Works in 1796. One of his best-known works in London is the front of White's Club, St. James's Street. Journeying from Bath to London, his carriage overturned, and he was killed instantly. He is buried in Westminster Abbey.

27-29 Tothill Street, Westminster, S.W.1.

Current Architecture. 72.—Rebuilding of the London County Westminster and Parr's Bank, Lothbury, London

Mewès and Davis, Architects



Messrs. Mewès and Davis's design for the rebuilding of this important bank headquarters is described on page 440. The above view shows the approach down Bartholomew Lane and the central feature of the new building as it will appear in relation to the existing buildings on either side of the street.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, April 13, 1921 Volume LIII. No. 1371

Notes and Comments

The Ministry of Health

LAST week, in noting casually that Dr. Addison had left the Ministry of Health, we promised to make further reference to his "removal." It was certainly not intended that the word "removal" should be taken in the invidious sense in which it has been occasionally understood. No doubt Dr. Addison agreed to "go quietly," as the police phrase has it. No man would put up a struggle to retain a position that all agencies seemed conspiring to make untenable. No man would have held so thankless a post so long and so patiently as Dr. Addison held it. Occasionally, it is true, he was goaded into retorting upon some of his many antagonists, and in doing so he sacrificed some degree of dignity; but on the whole his tenure of office was marked by what, in the exceptionally trying circumstances, may be regarded as extraordinary good-temper. His being entrusted with another portfolio is no doubt a proof that the Government recognises and desires to reward the gallantry of his fight against heavy odds. The deplorable mistakes he made should in justice be laid at the door of the very ingenious persons who saddled a doctor of medicine with the duties of a housing expert, and who in this very practical matter of building "houses for heroes" have too often allowed themselves to be swayed hither and thither by wholly political considerations. That Sir Alfred Mond, the new Minister of Health, will do better than Dr. Addison has done, or will even do as well, it is hopeless to expect. Sir Alfred is a man of parts, but all the technical knowledge with which he is so well equipped does not seem to qualify him as an expert in either hygiene or housing. It is rumoured—perhaps with little truth—that the Health Ministry is on the verge of dissolution; but if it is to have a continued and a healthy existence, it must be freed from its embarrassing housing excrescence. Housing should be the unmixed task of an *ad hoc* body. It is too big for a mere parergon; and the Minister of Building should be a properly qualified architect, having a competent builder for his first-lieutenant. Better still it would be for Government to relinquish altogether control of a subject which (to put the matter very mildly) they have handled ingloriously, making their Health Minister the shuttlecock of conflicting interest; but unfortunately they cannot afford to drop it—to do so would be a confession of failure that would let them down heavily at the general election which is said to be impending. When that election arrives, it ought to result in the return of several architects and builders to Parliament; for by virtue of their functions, and of the fundamental services they render to the community, they have an unsurpassed interest in public affairs, and an inalienable right to take a more important part in legislation and administration than that which, in their modesty, they have hitherto assumed. Major Barnes, we are sure, would welcome any number of his professional brethren to the House, where at the moment he is the sole representative of architectural interests.

Coal Economy

Are we using our coal wastefully? The question has been asked very earnestly with reference to our hand-to-mouth supplies becoming exhausted almost immediately on the occurrence of a coal-mining dispute. It is alleged that much wastefulness arises from our dependence, in Britain, on coal as almost our sole source of light, heat, and energy. We use more coal than need be. Other countries use water-power much more extensively than we do in mechanical and chemical works, for example, and for the generation of electricity; and engineers are experimenting with means of harnessing the tides of seas as well as of rivers. That we could scrape off from the exterior stonework of St. Paul's Cathedral enough carbon to feed its heating apparatus for a week we need not believe; but the presence of the stuff there and on the surfaces of most buildings in our cities is a sure indication that our coal is not being subjected to complete combustion before it is allowed to emerge from millions of chimneys. A writer on the subject, while declaring that the waste in the ordinary domestic grate is less than was supposed, adds the damaging rider that "at the least from 30 to 40 per cent. escapes by the chimney to darken the air, corrode buildings, rasp lungs, and spoil vegetation." It is a strong argument for further modifications of the domestic grate, and for the increased adoption of gas-fires-points on which the current Building Trades Exhibition gives us further ground for hopefulness as to a growing regard for coal-economy, and a consequent purification of the atmosphere that discolours and corrodes our buildings and poisons our health.

"Peaceful Penetration Again"

It has not been forgotten that the Germans made a dead set at our glassmaking industry, which they nearly extinguished. They have very strenuously renewed their endeavours to secure a complete monopoly of this manufacture, and are succeeding only too well in this nefarious design. Last week it was announced that fourteen British glass-manufacturing firms were closing down in consequence of German competition, and that 6,000 employees, earning £40,000 a week in wages, had received a week's notice of dismissal. These dismal tidings refer mainly to the making of scientific glassware, especially optical glass, but the manufacture of bulbs for electric lamps is also deeply implicated, and this matter is the subject of specific reference in a letter that has been addressed to members of Parliament by the British Chemical Ware Manufacturers' Association, Ltd., who urge the need for giving adequate protection to the British scientific-glass industry under the Safeguarding of Industries Bill. Germany, they say, is determined to recapture this industry, and will no doubt receive from her Government a subsidy that will enable her to do so, unless our own Government takes measures to repel the attack. The vital necessity of scientific-glass making was fully realised by the Government during the war, when it became necessary to establish a special Government department known as the Optical and Glassware Department of the Ministry of Munitions, without whose aid the war simply could not have been carried to a successful issue. Knowing how much depends, not only commercially, but as a matter of prime importance internationally, on holding the monopoly or the predominance in glass manufacture, the Germans will strain every nerve and exhaust every artifice to secure it, and this determined assault must be counteracted before they reach their objective. As to the bulbs for electric-light lamps, it is notorious that before the war we were entirely dependent on the Germans for an adequate supply, and to resume this condition would be not only dangerous, but, what is worse, humiliating. Yet it is stated that more than a million bulbs a week were being made in this country until the wholesale closing-down of the works. We urge the Government to adopt every possible means of stopping the rot. It is quite obvious that the Germans are at their old trick of " peaceful penetration " backed up by commercial pools and State subsidies, and there ought to be no loss of time in adopting effectual means of checkmating them.

The Father of the L.C.C.

Sir John Benn has arduously earned the luncheon given in his honour at the Connaught Rooms the other day. He is seventy years old, has completed thirty-two years of consecutive service on the London County Council, and is now its only original member. No wonder that the King honoured the occasion with a special message conveyed through Lord Stamfordham, who wrote: " His Majesty is interested and pleased to hear of this recognition of Sir John Benn by his friends and admirers for his long service in the government of London." Even those who have seldom been able to see eye to eye with Sir John will join heartily in thanking him for and congratulating him on what he has done for London, of which he has been always a sincere and an ardent lover. One great reason of his popularity among opponents as well as supporters has been his unfailing sense of humour. And he is not only a humourist himself, but appreciates humour in others, as witness his comic quotation at the luncheon. The Council, he reminded his hearers, found a site for Cleopatra's Needle, and before it was set up a label was put on it: " This monument, as some supposes, was looked upon by the Prophet Moses. It passed, in time, from the Greeks to the Turks, and was stuck up here by the Board of Works." No need to spoil the joke by insisting on the slight historical discrepancies, ancient and modern. O rare Benn!

Concrete Road Construction

A recent development in concrete road construction introduces a much-needed reform. It is periodically necessary to dig up pathway or roadway to get at various pipes, conduits, sewers. This is always done in a singularly wasteful manner; and where the paving happens to be jointless, or to consist of large slabs of stone, " making good " after the operation is a costly process which leaves an ugly scar, sunk below or raised above the general level of the surface. To avoid this costly and ugly result, slabs of concrete, reinforced or not, are being tried. The particular advantage they offer is that they can be taken up and afterwards restored without any necessity for cutting or breaking the material, and without leaving those unsightly scars that follow the depredations of the ruthless pipe-fiend. His attentions will be much less annoying, and not nearly so costly, when his work can be done neatly and without much, if any, need for excavation; and it is patent to the most ordinary observer that the civil engineer is long overdue with some device for giving access to the pipes, such, for instance, as encasing them in a concrete or an iron box.

Billingsgate Condemned

Departmental Committees' reports have during recent years become too numerous to receive much attention or to carry much weight. A recommendation, therefore, contained in the report prepared by the Departmental Committee on the wholesale food markets of London, that a central fish market for London should be established on a site elsewhere than at Billingsgate need not be regarded as the voice of doom. Moreover, it is accompanied by a minority report urging that it would be a grave mistake to abolish Billingsgate, and recommending that Custom House Quay should be adopted as an annexe to the present market building; and the signatories of the majority report admit that the trade generally is opposed to a change of site. It is rather painful, however, to contemplate the Custom House as a potential fish-market. It is not suitable for that high calling, and one does not want to see any alteration in the fine riverside frontage which was erected by Sir Robert Smirke when David Laing's building had sunk dangerously as a consequence of defective piling. When (in 1814) Laing began the work, piling had not been reduced to an exact science. As for the buildings of brick and Portland stone (" in the Italian style ") which Horace Jones completed in 1876, their demolition would give rise to no poignant regrets; and, with the present-day views of town-planning put into operation, the present site could be made larger and much more convenient. Fish has been sold here since 1351, and the place has been a " free and open market " since 1699. It were a pity to depart from a custom so inveterate, and besides, to leave stranded at the north foot of London Bridge that fine Fishmongers' Hall which Roberts built in 1831 on the site of the old hall built by Jarman, City Surveyor, after the Great Fire.

Bolt-in-Tun

It is with a twinge of sorrow that one learns of the impending dissolution of the old coaching inn known to this day as " Bolt-in-Tun." An inn occupied this site—on the south side of Fleet Street—in 1443. In a Patent Roll of that date the inn is mentioned as a boundary-mark in a licence of alienation to the Friars Carmelites of London on certain premises in the parish of St. Dunstan, Fleet Street; and a seventeenth-century trades token bears the engraving of a tun pierced with three arrows. It was, of course, the rebus on the name of Prior Bolton of St. Bartholomew's. Bishopsgate Street Within and Bishopsgate Street Without each had a house bearing a similar sign. Larwood and Hotten, in their " History of Signboards," have a chapter on the puns and rebuses in which our forefathers delighted—Luton, Thornton, Ashton, Hatton, were all subjected to this kind of torture; the infliction of which was perhaps excusable for the same reason that was held to justify the bumping of boys on the boundary-stones, which was supposed to assist the memory.

Higher Buildings for London

A deputation from the London Building Act Committee of the Royal Institute of British Architects having attended before the City Lands Committee of the City Corporation with proposals with respect to increasing the height of buildings in London, the City Lands Committee afterwards passed a resolution expressing " sympathy with the views expressed that buildings in the City of London should be allowed to be erected to a height of 120 ft., with two storeys in the roof, subject to the questions of conditions of health and protection from fire being properly considered." Also, it may be added, there are involved certain questions of rights of light and air. These will have to be considerably modified (as they certainly should be in any case) if the scheme for allowing buildings of a greater height gets through.

What is Wrong with Architecture?

By CHARLES COWLES VOYSEY

A NATION or an age gets the architecture that it deserves. So it must always be, for architecture is essentially the expression of the life of an age, and if greatness is not in the age, neither can it be in the expression. It will cease to be a national art the moment it fails to express the national life or to meet with imagination all the requirements of the age. With its complicated technique, diverse practice, its foundation in utility, and its ultimate dependence, therefore, on the community, its quality is for ever restricted to the level of the communal mind. Architecture must be a united, living school, expressing a great communal idea, or system of ideas, or it is nothing. Communal ideas, like the religion of Greece, or of the Middle Ages, or the civic conception of the Romans, have always been the inspiration of fine building. The great periods of architecture have coincided with the periods in the world's history when a civic sense and a corporate will and intention have been clearest. Behind Greek architecture there was this clearly expressed civic sense and a communal life on a spiritual basis demanding expressions in terms of architecture; and the mediæval cathedrals were the work, not of mediæval architects, but of mediæval religion.

Civilisations will stand shocks, and are stimulated by them, but up to a point only. It remains to be seen whether our civilisation will withstand the shock of recent years, the culmination of a long period of change, transition, revolution, and upheaval producing strife and chaos, licence, and anarchy in the social, economic, political, religious, and every sphere of human life and activity. So far, we are without any element strongly developed making for unification, any element strong enough to carry through to the art of building. This condition is faithfully and minutely reproduced in the architecture of the period, the period of the last hundred years, and the question, What is wrong with architecture? becomes, in essence, "What is wrong with our civilisation?

It has been called a materialistic age, yet its very materialism is muddle-headed, confused, and ashamed. Perhaps it may be that materialism as a creed can never wholly satisfy, but a united, frank materialism might supply an idea strong enough to formulate a materialistic architecture.

Lack of Public Understanding

To-day the Mistress Art of the Greeks and the popular art of the Middle Ages is no longer an art as far as the man-in-the-street is concerned. Even he who looks at pictures or listens to music is unaware of the meaning of the word "plan" as applied outside those two arts with which he is familiar. Of architecture as an art he knows nothing; its forms and intentions, once well understood, are now meaningless. That the architect is primarily an artist, he does not understand, nor does he know in the faintest degree how to use him. Value is often placed on the lesser parts of the architect's function. He is valued for his business ability, or as a policeman to control the vagaries or feared avarice of a builder, or again to cloak the work of the engineer. To the artist the appeal is seldom made, and therefore the best is seldom produced.

It was suggested recently by a very eminent architect that the need of to-day was for a school for patrons. In this direction propaganda work has to be undertaken by architects, and if some system of popular education could be formulated, public opinion in these matters could be enormously influenced, and great benefit to the cause of architecture result.

The entire responsibility for present conditions cannot be attributed to the public attitude alone. The faults and shortcomings of the profession are frequently enough pointed out. It is action and reaction, a circle which cannot be broken until there is a fairer ground for a better mutual understanding. The architect, finding no place for himself in the modern world, has remained apart as "on a peak in Darien"; unable to make contact with any mind outside, he has turned inwards upon himself, developed methods and forms and a language unto himself, often enough without relation to the world outside. Thus, architecture cannot grow out of the life of the times, but becomes the product of a priesthood imposing on the people a mystery they cannot understand. To identify themselves with the common man and to find a function in the complex of the modern commonwealth is the problem for architects.

Their schools are preparing the way and are seeing to it that men with a high standard of training and technical competence are there when the time comes. When the people want great architecture they will get it, for men will always rise to great occasions, but it will not come until it is wanted, and until a sympathetic understanding of its true functions takes the place of ignorant hostility and blind indifference.

The Example of America

In America it would seem that a higher value is placed on the services of the architect than is the case in this country, and that a higher level of architectural achievement has been reached. Here is found a wider public appreciation of good architecture, a realisation of its value and some measure of instructed criticism. With this is a well educated and closely united profession presided over by a live Institute, a controlling body representative of the best brains in the profession, able to express an opinion which is listened to and acted on in all architectural matters concerning the public welfare. This is not merely an association of the older and established men naturally inclined to mutual admiration and the maintenance of their individual positions.

Architects must leave their petty differences, their jealousies, and squabbles over detail, unite on broad general principles, formulate a policy of public education, and prove the soundness and value of their judgments.

When a change of aspect becomes general and there is a fuller realisation of the potentiality a trained architect holds within him, an atmosphere will be created in which he can live and work. The client will then no longer go to a professional merely as "a man who knows his job"—as if architecture could be known! To-day they often appear to think that they are entering into a contract for the supply of infallibility, and are sometimes disappointed. They will go as to a fellow experimenter —an experimenter with a specially trained point of view of value to them in solving their problems.

The patrons of the Renaissance must have felt something of this when, having chosen their man, they sent him on his travels to study the great buildings of the world in all ages in relation to their own requirements. The English Renaissance was another of those happy periods when architecture meant something to other men than those actually engaged in practising it. A cultured discriminating taste and a knowledge of principles was then held to be an essential part of the equipment of a gentleman; being more than the fashionable pose of a class, it was a real vitalising factor and the source of fruitful relationship between artist and patron.

The nobleman wanting to build a great mansion, a monument to himself, his position, and his family, in sending his architect on the grand tour to France, Italy, and Greece before preparing his design, benefited greatly both himself and the cause of English architecture. There are modern instances of this, but they are too few, and it would be well if it were more usual. Of the obvious necessity for wide travel and its educational value to architects it is unnecessary to say anything here, but the point to be urged is that they should be given facilities to study the given subject as widely as possible before making a design for an important project. Our merchant princes before embarking on a big building enterprise, say the erection of a great modern "store," should place funds at the disposal of their chosen architect—a mere trifle in such an undertaking—tell him to pack up and visit the great stores of America, Germany, and Paris to find out what the world knows and thinks—the last word on store design. It is generally acknowledged that America, if not Germany as well, is ahead in this matter of stores as in other types of building; but are they generally studied? From buildings recently erected here it would appear not, and what justification is there for ignoring what is known to be superior? For the problems of architecture are essentially the same the world over, modified by local conditions and requirements.

The result might be better if younger men were chosen—precluding anything completely or hopelessly grown up—a man, it may be, who had never built a similar building before. Confusion often exists between information that can be accumulated and conveyed; that is knowledge and experience, which must be lived and cannot be repeated. The young man is trained; that is, he has collected the knowledge, yet still retains the flexibility and accessibility to ideas and impressions necessary for travel. For travelling is no easy matter, but in its blend of movement and impression, adventure and reflection, it has always been a spur and inspiration to imaginative creation.

From a study of Leipziger Strasse and Fifth Avenue—the latter probably the finest shopping street in the world—from a study of the detailed anatomy of their store buildings something better should result than from assiduously sitting in an office with perhaps occasional visits to the New Regent Street!

Qasr el'Aini Hospital Competition

H.H. Government invite competitive designs for the new buildings of Qasr el'Aini Hospital and School at Cairo, with accommodation for 1,225 beds. The competition will be conducted in two stages, the first of which (preliminary) is open to all architects; the second (final) will be restricted to twelve architects, six of whom will be selected by the assessor from those submitting the most meritorious designs in the preliminary competition, and six others nominated by H.H. Government with the advice of the assessor, Mr. John W. Simpson, President of the Royal Institute of British Architects, Membre corr. de l'Institut de France, whose judgment will be final and binding.

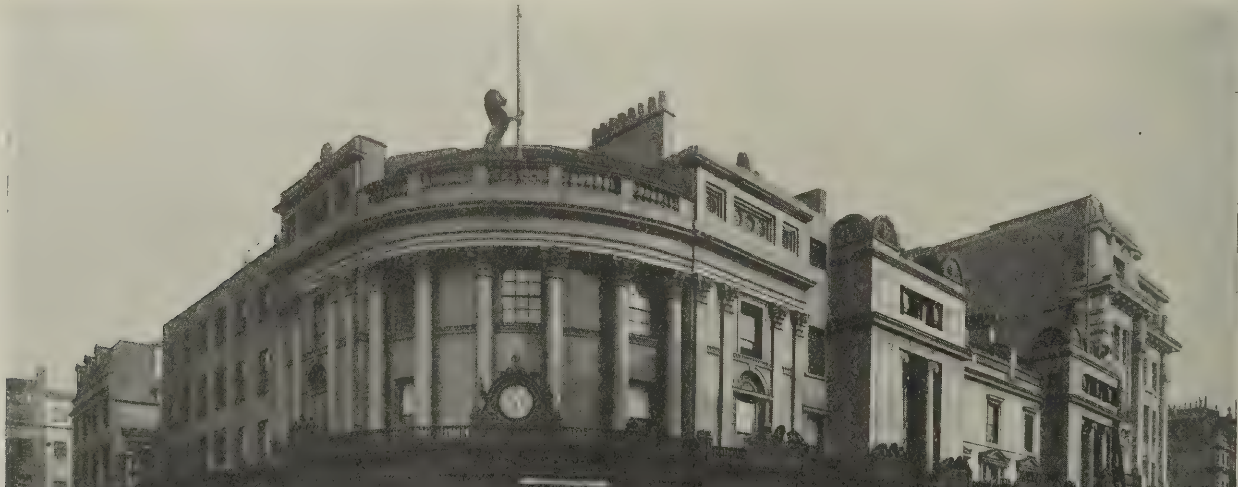
Applications for particulars of the competition should be addressed to H.E. the Minister of Public Works, Cairo, Egypt; or to the Secretary, Royal Institute of British Architects, 9 Conduit Street, London, W.1.

Such applications must be accompanied by a cheque or draft for three Egyptian pounds (or its equivalent in sterling), which sum will be returned to all applicants who submit a bona-fide design, or who return the particulars in good condition within one month from the date of their application.

Designs in the preliminary competition must be lodged not later than October 3, 1921.

Expeditious Building: A Photographic Record

As an interesting record of the rapidity with which a new building may be erected under favourable conditions, we propose to publish from time to time photographs showing the progress of one of the biggest building schemes at present going forward in London—namely, the Dickins and Jones building in Regent Street. On this job work is proceeding continuously with a view to as early a completion as possible. The photograph reproduced below shows the condition of the site on March 4 of this year. Next week we shall publish a photograph taken from the same point of view on March 31. After this the progress of the building will be recorded month by month.



Higgs and Hill, Limited, Builders.

SITE OF MESSRS. DICKINS AND JONES'S NEW PREMISES, REGENT STREET, LONDON.
SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A., HENRY TANNER, F.R.I.B.A., AND E. J. TANNER, A.R.I.B.A., ARCHITECTS.

Architectural Causerie

Illuminated Signs

CAN anything good come out of the coal crisis? In most of the great cities it has extinguished illuminated signs. Not finally, it is to be feared. They will again blink and wink and break out in garish and unwholesome colours as soon as this suicidal industrial war comes to an end. Meanwhile, although the terror by night is temporarily in abeyance, it is only by averting the eyes that we can escape the horrors that they inflict on us by daylight. They ruin the appearance of any building to which they happen to be affixed. Nor is it only surface disfigurement—mere physical unsightliness—that they impose on the buildings to which they are uncongruously attached. Often they have no relation whatever to the function of the buildings, on which they then inflict an intensified moral degradation by treating a building as if it were an advertisement hoarding. Even when the sign announces something that the building is or does, the case is bad enough—but to let it out for hire to advertise an absentee is an offence against propriety.

"What to Look For"

That is the point. In glancing at a building, most persons simply do not know what to look for. Having no true standards of comparison, they are unable to discriminate between good, bad, and indifferent specimens of architecture. Anticipating the efforts of artists of all denominations to awaken the public interest in artistic values, Messrs. Archibald D. Dawnay and Sons, Ltd., are issuing a series of illustrated advertisements—No. 1 appears in our pages this week—in which they make a most attractive appeal to the eye and mind of the architect's actual or prospective clients. The series may be regarded as a course of easy lessons on the fundamental principles of good architecture. This week, Norman work is illustrated in elevation and in detail; and a pleasant little homily on the pleasures and advantages of regarding buildings with intelligent appreciation enhances the value of this initial chapter of Messrs. Dawnay's novel and enterprising scheme for helping the architect to spread a better and wider public knowledge and a higher appreciation of good building.

Public Interest in Architecture

It is very delightful to see a periodical of such high standing as the "Sphere" again devoting a full page to matters of architectural interest. In the issue in question—that for April 2—these topics are pleasantly varied. First there is a note, illustrated with a drawing by Mr. Hanslip Fletcher, of Nos. 43-53 Moorgate Street, of which Messrs. Richardson and Gill are the architects, while Mr. Percy Bentham has modelled the sculptures. Next there follows a reference to the impending demolition of Parr's bank premises in Threadneedle Street, a building the more remarkable for its scholarly simplicity, because Moxhay, who designed it, was not an architect professed. The acquirement by Messrs. Hampton and Sons of 20 St. James's Square, a fine Adam mansion, whose beauties the new owners are fully qualified to appreciate and preserve, is next recorded, with small illustrations of the drawing-room, of a ceiling decoration by Angelica Kauffman, and a beautiful Adam fireplace in marble. So interesting a page is an excellent contribution towards an object which all architects have very much at heart—that of convincing the public—or, at all events, that important section of it which reads the "Sphere"—that architecture is intrinsically a very fascinating subject.

The Roman Coliseum Reprieved

Public opinion in Rome has been too strong for the Government. The Coliseum is to be spared the risk that must have attended the installation of the electric light in it for the use of a dramatic company—spared also the infliction of a gross incongruity between ancient and modern. Signor Croce, the renowned philosopher, who happens to be also Italy's Minister of Education, "in a manner equally philosophical and statesmanlike," as someone has astutely remarked, states that "the concession, which had been made without his knowledge by his Under-Secretary, would be cancelled as a homage to public sentiment." Would that public sentiment were as potently æsthetic in our own country! In Italy this reverence for "the works of man" had already preserved for posterity what still remained of the Coliseum, careful reparations having been made from time to time. As a fragment, the building is probably more noble in appearance than it was when complete, because imagination is richer than accomplishment. It is for this reason that so many persons prefer Venus to offer the mute appeal of her mutilated arms. Even the unfinished copy of the Parthenon on the Calton Hill at Edinburgh excites more special wonder than it would have provoked if it had been completed.

Norman Church as Wash-house

It is rather painful to find our good friends the French credited with setting us an atrocious example of bad taste. One of their municipalities, so we are told (but we need not believe it, and are personally adopting that option), is advertising the sale by auction of a venerable Norman church—that of Longuelune, so a paragraph in a London daily newspaper alleges. According to this paragraph, the church bell, twelve pieces of ancient church furniture, and thirteen trees from the cemetery, are included in the sale. "Three weeks," the paragraph continues, "have been given to relatives to transfer their dead from the cemetery, and the municipality proposes to install a public wash-house on the site." Frankly, unless confirmation of this news is forthcoming, we shall refuse to believe that it contains a single word of truth. Truly, "cleanliness is next to godliness," but need never supersede it—especially not in the irreverent way that this paragraph suggests. By the way, where is Longuelune? Is it eponymous on the apparent lunacy of its inhabitants?

Rebuilding Louvain Library

The plans submitted by Mr. Whitney Warren, the distinguished American architect, for the rebuilding of the library of Louvain, have been approved by the Belgian authorities. As the Latin inscription which it is proposed should be carved in stone over the main entrance phrases it, the library was "destroyed by barbarians," and it is to be rebuilt by "gifts of Americans." Mr. Warren is going to America shortly to help in raising the £250,000 necessary for the work. He hopes that the first stone will be laid in July. The designs are based upon Flemish seventeenth-century architecture. Mr. Warren is best known in this country by his association with Messrs. Wetmore, Reed, and Stem in the design of the Grand Central Terminal in New York—a great achievement in architectural-engineering. A portrait of Mr. Warren appeared in our issue for December 15 last. It is interesting to note that Mr. Warren proposes to rebuild the library in the old style; the adoption of any other would undoubtedly have provoked widespread disapproval. Architects will await Mr. Warren's design with considerable interest.

A New Bank for London

THE accompanying illustrations show the design of the winning competitors, Messrs. Mewès and Davis, in the limited competition for the rebuilding of the head office of the London County Westminster and Parr's Bank, Ltd., in Lothbury, London, E.C. The property is bounded on the north by Lothbury and Throgmorton Street, and on the east and west sides by Angel Court and Tokenhouse Yard. The entire area of the site has been covered on the ground floor, while provision has been made for a large central court on the upper floors, two smaller ones on the north side, and for one next Angel Court.

It is evident that the governing factor in this design was the necessity of having the main entrance at the end of Bartholomew Lane, thus giving the bank an important central feature, visible from Threadneedle Street. The entrance being out of centre produced a problem, the solution of which presented many difficulties.

Leading from the banking hall is a staircase arranged in the Italian manner, and balanced on both sides by four lifts in pairs. Twin lifts for the use of the staff are situated in symmetrical positions at the other side of the hall, and give access to the upper floors reserved for the bank officials. The public hall and the clerks' space under the large central court extend the full height of the ground and first floors, thereby giving a well-lit, spacious gallery from which open the board room, committee room, and the important offices on the first floor.

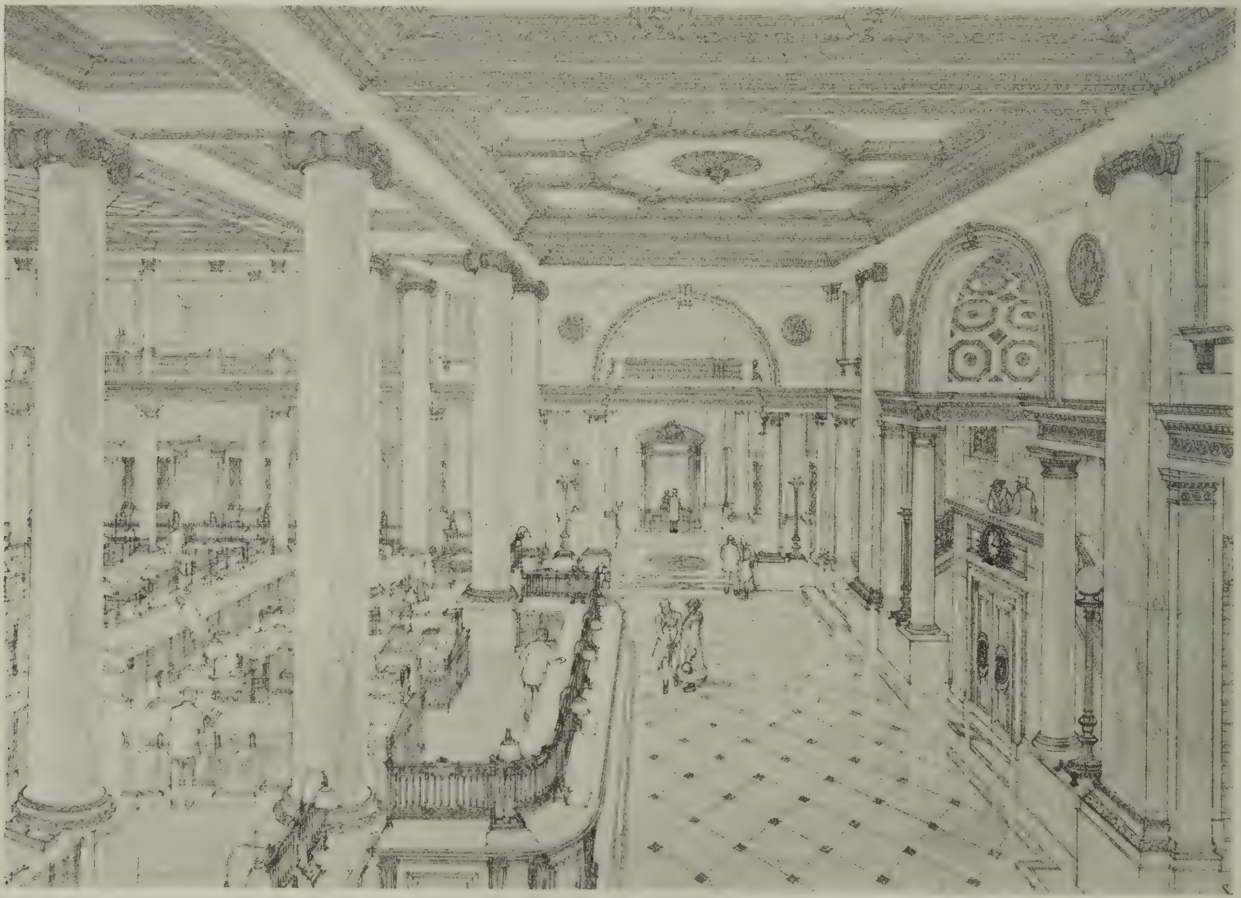
The perspective drawing below shows an interior view of the banking hall from a point over the main entrance. The external view shows the approach down Bartholomew Lane and the central feature as it would appear in relation to the existing buildings on either side of the street. Private entrances for the use of the tenants who would occupy some of the upper floors have been placed in Throgmorton Street and Tokenhouse Yard, and a feature is made of the stockbrokers' entrance in Angel Court, which leads directly to the main banking hall.

It has been found possible to plan the bank accommodation in the basement, ground, first, second, sixth, and seventh floors, and to give three entire floors for the use of private offices. The latter are provided with their own staircases and lifts and all the staircases are interchangeable in case of emergency. The sixth floor comprises amongst other features the directors' and principal officers' luncheon and smoking-rooms, a large canteen for the staff, kitchens, pantry services, etc.

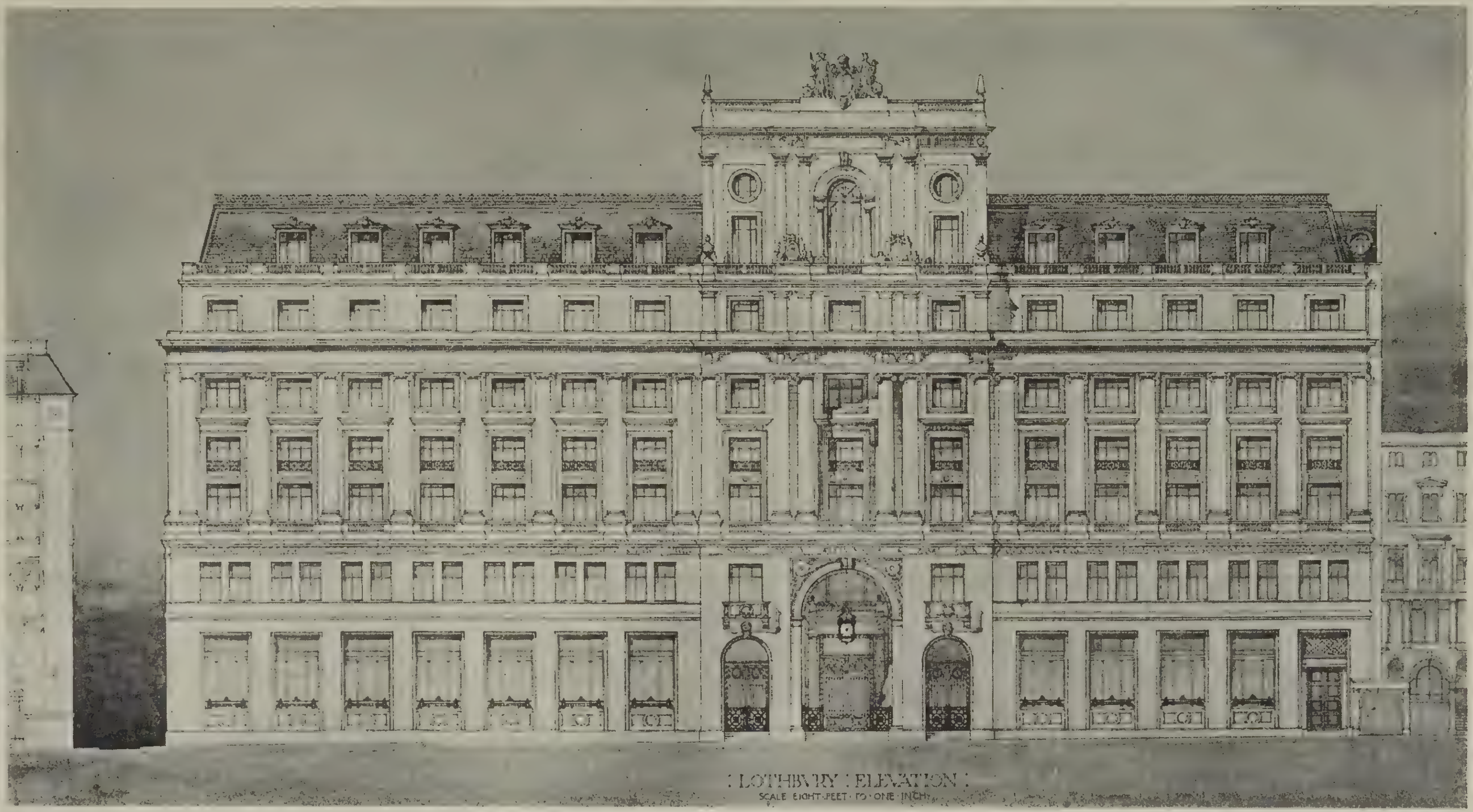
A feature has been made of the directors' luncheon room, which occupies the height of two floors and, being planned on the axis of the main entrance, has direct outlook over Bartholomew Lane. On the seventh floor, over the general canteen, are provided two large recreation rooms for the use of the male and female staffs.

The architectural style chosen is that of sixteenth century Italian Renaissance, modified to meet the requirements of a modern commercial building. Portland stone will be used for all exterior work, whilst the internal walls and columns of the banking hall will be lined with selected marbles. The elevation to Lothbury extends the full height of 80 feet to the top of the main cornice of the two top floors, one adds another storey to the building and the other is in the roof. The frontages on Tokenhouse Yard and Angel Court have been designed to meet the requirements of ancient lights. It is proposed to commence building a portion of the premises adjoining Angel Court, the completion of the remainder being carried out at later dates.

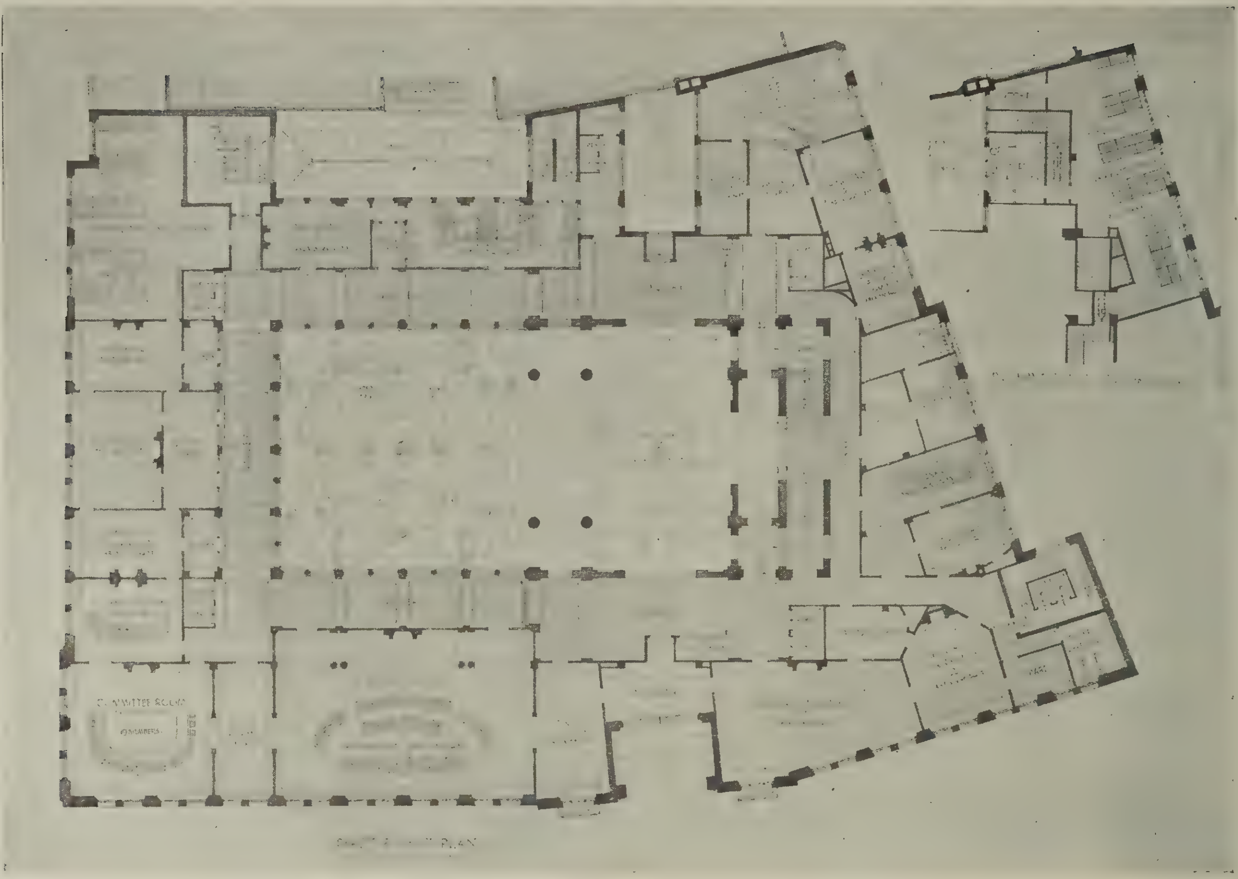
The existing bank building, designed in 1837 by Professor C. R. Cockerell and Sir William Tite in collaboration, is a characteristic example of the architectural work of the period. The exterior may be attributed to Cockerell alone, and the interior generally to Tite. In the South Kensington Collection there are some drawings of the building as it was originally designed. Another bank building of the same period—Parr's Bank in Threadneedle Street—is shortly to be demolished.

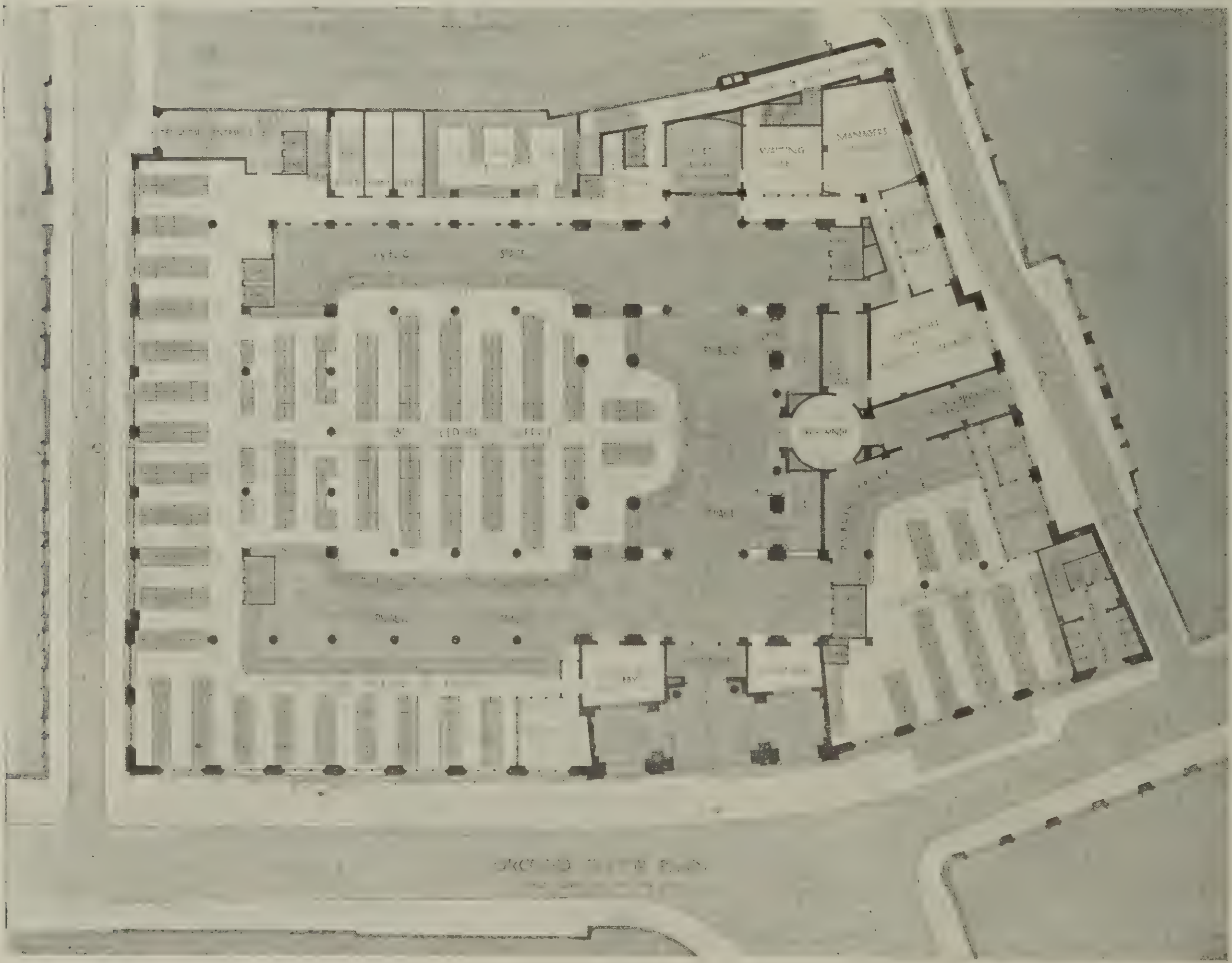


REBUILDING OF THE LONDON COUNTY WESTMINSTER AND PARR'S BANK, LOTHBURY, LONDON: THE BANKING HALL. MEWÈS AND DAVIS, ARCHITECTS.



REBUILDING OF THE LONDON COUNTY WESTMINSTER AND PARR'S BANK, LOTHBURY, LONDON.
MEWÈS AND DAVIS, ARCHITECTS.

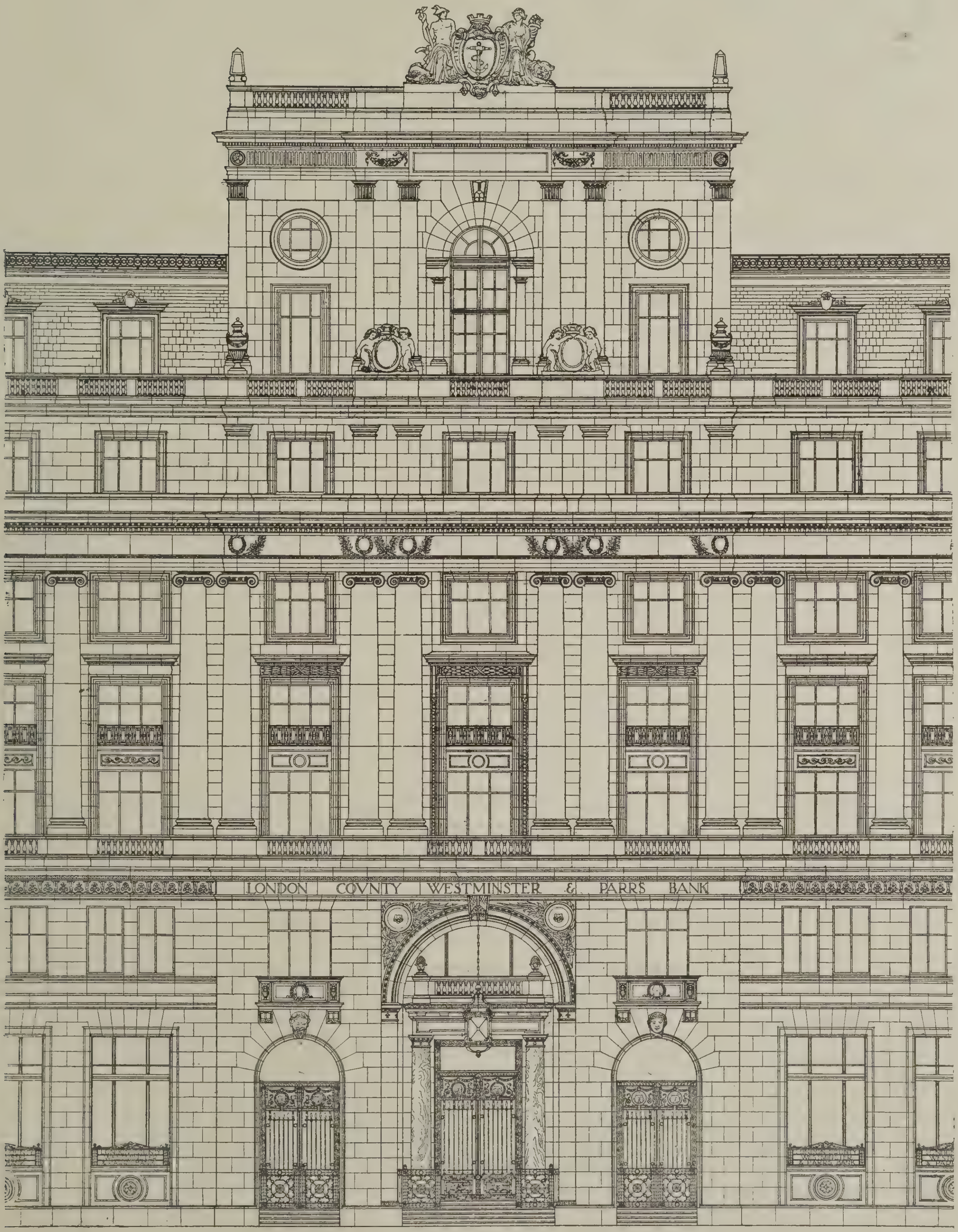




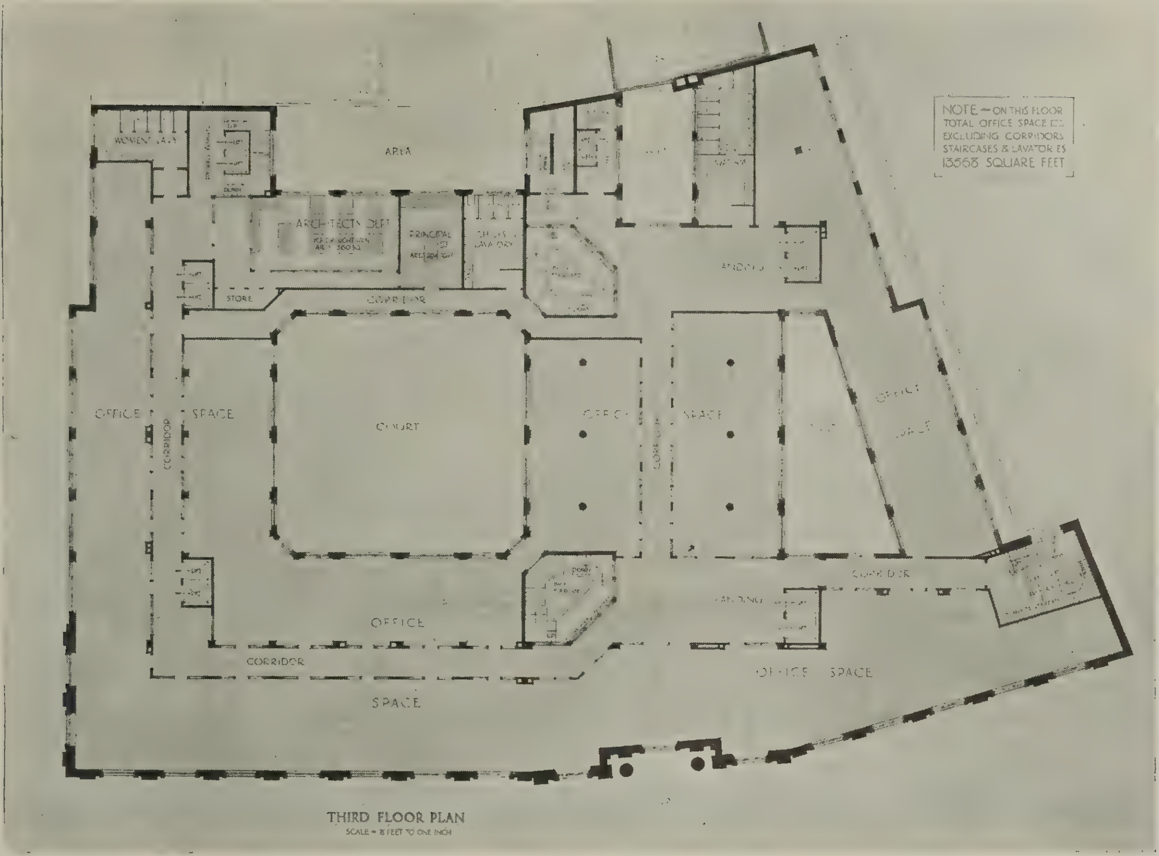
REBUILDING OF THE LONDON COUNTY WESTMINSTER AND PARR'S BANK, LOTHBURY, LONDON: GROUND- AND FIRST-FLOOR PLANS. MEWÈS AND DAVIS, ARCHITECTS.

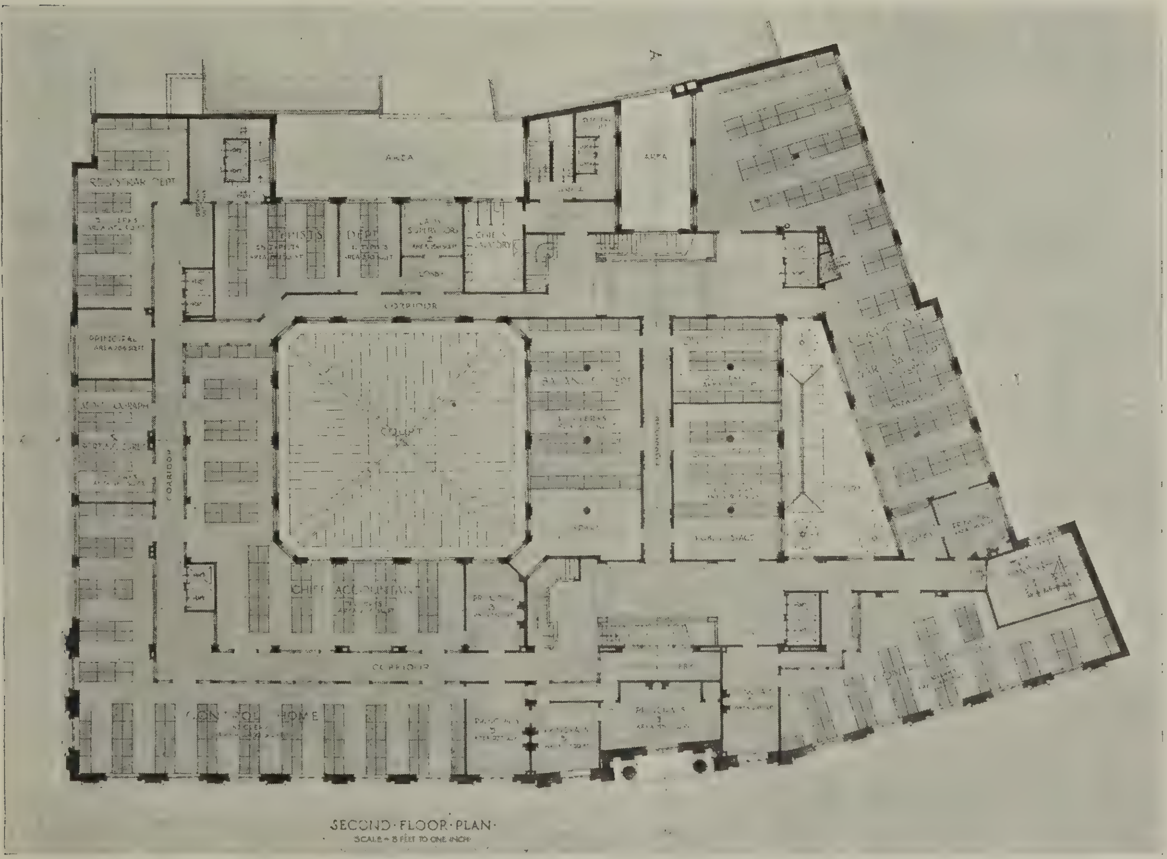
Current Architecture. 73.—Rebuilding of the London County Westminster and Parr's Bank, Lothbury, London : Detail of Façade

Mewès and Davis, Architects.



The proposed new building for the London County Westminster and Parr's Bank, of which a detail of the centre portion is shown above, will take the place of a building erected in the early part of last century from the designs of Cockerell and Tite. The architectural style chosen for the new work is that of the sixteenth-century Italian Renaissance, modified to meet the requirements of a modern commercial building. The exterior will be of Portland stone.





REBUILDING OF THE LONDON COUNTY WESTMINSTER AND PARR'S BANK, LOTHBURY, LONDON: SECOND- AND THIRD-FLOOR PLANS. MEWÈS AND DAVIS, ARCHITECTS.

The Friday Club's Exhibition

This year's exhibition of the Friday Club at the Mansard Gallery is notable for its high level of excellence and the inclusion of beautiful examples from the applied arts. Out of 237 works, the following are probably the more arresting:

Lithographs.

R. Bevan's "Sale at Ward's Repository" (136), beautifully drawn on stone, has a rare quality in the balance of its masses. There is a robust manliness in E. Wadsworth's "Penlee Quarry" (141) which calls for unstinted praise.

Designs for Textiles.

C. R. Mackintosh's (123) and (124), if able, are overloaded; Paul Nash's are consummate, the steady rhythm of the vertical stripes in the left example (125) being especially successful.

Posters.

E. McKnight Kauffer is, in my opinion, our best poster artist. If "Hatfield" and "Chingford" are happy tone achievements, the more abstract but not less direct designs for "Vigil Pure Silk" and the "London Group" are intensely unsophisticated and attractive.

Wood Engravings.

Deservedly so, both John and Paul Nash are by way of attaining prominence, not only as water-colourists but as engravers. No. (99) by the former and (103) are sets of rare power in concentrated design. These are, indeed, woodcuts to buy, admire, and study. E. Gill has three beautiful examples scattered in the large set making up (107). The first shows a woman's breasts and hips; another the empty tomb of Christ, and the third, in red, our Saviour on the Cross; done in the manner of mediæval brass-cutters, they adumbrate in their severely exquisite handling the fertile visions of an unerring and fresh mind.

Etchings.

Anyone with an eye for the subtle niceties of etchings should make a point of studying C. R. W. Nevinson's New York studies; (80), (81), and (83) especially show a racy sense of architectural forms pruned of unessentials and alive with delightful audacities. As to Forty Third Street (77) there is nothing in the whole exhibition to equal it for subdued chiaroscuro and soft brilliancy. M. Pearce's "The Chimneypiece" (146) exhibits a technique sympathetically adapted to its chief aim of creating a sense of delicate intimacy. The sketches for stage dresses and scenery of Lovat Fraser, Wilkinson, and A. Rutherston are undeniably clever, but theirs, it must be admitted, have the veneered charm of slick and artificial minor design; there is far more serious matter in P. Nash's "Truth About the Russian Ballet" (68) and M. Milne's stage for "Callinachus" (58), for both contain undoubted lyrical elements.

Mosaic.

Boris Anrep once more asserts himself as our ablest mosaicist with "Heads of Woman and Child" (184). This design yields up a definite chastity of conception, and shows a headstrong capacity for colour and scale in the selection of its material.

Rugs and Hangings.

Miss Barron's "block printed cottons" have a winning reticence of colour and design; all the hangings shown here boast of a wide range of warm colours, daringly blended.

Drawings.

Four masterly drawings, above all others, claim our admiration. E. Wadsworth's "Study" (13), Nude (18), and F. Dobson's "Woman Knitting" (15) and working drawing (17) exhibit an impeccable draughtsmanship serving the most daring æsthetic conception. They are, in every way, perfect examples of their kind. E. Gill's quarter-scale drawing, "The Turning-out of the Money Changers" (70), for Leeds University, shows the proper way to draw a sculptured frieze in bas-relief.

Oil Paintings.

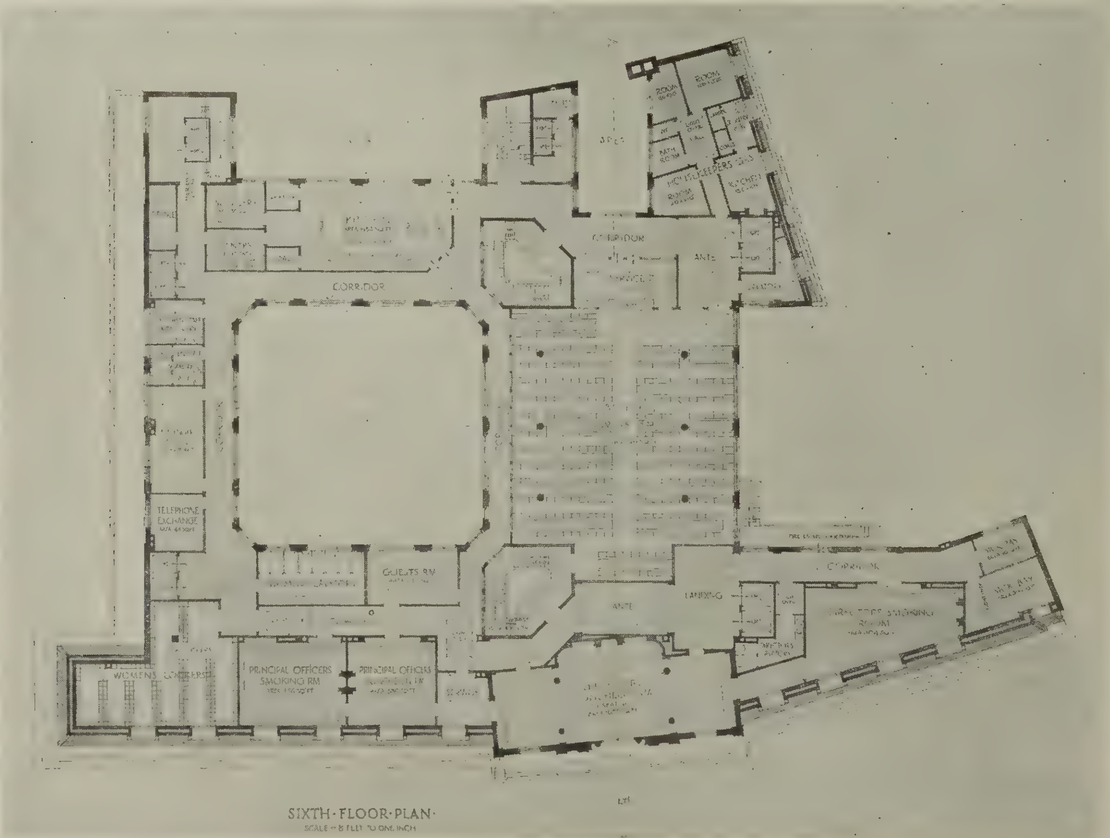
There is a happy blend of naïveté, witticism, and quiet mirth in Ethelbert White's "The Village Stores" (49), which will not be denied. With W. Roberts's "The Rehearsal," (50) we are at once hurled into the hectic atmosphere of abstract design; it is an undoubtedly able piece of work, and compares well with some of Picasso's similar achievements. There is a kind of aloof and impersonal sanity in the long verticality of the two main shapes which for ever asserts itself, and the sombre colour weight at the top carries the eye downward without effort. The difficulty of this picture lies in a plethora of snappy angles which break up the composition in a manner possibly as masterly as it is wilful. Mark Gertler being Mark Gertler, his painting, as here seen, is sometimes dramatic, often turgid, and always a challenge.

Sculpture.

F. Dobson's Bust (179) shows the influence of Epstein, same resiliency of touch and same power of selection. E. Gill's two groups, if a trifle archaic, have been lovingly carved, and it is conceivable they would look uncommonly well against a dark shock of close foliage in any private garden.

With such a wealth of good stuff, this show is worth more than one visit, and you should come out of it with your mind fairly agog with cognate cogitations.

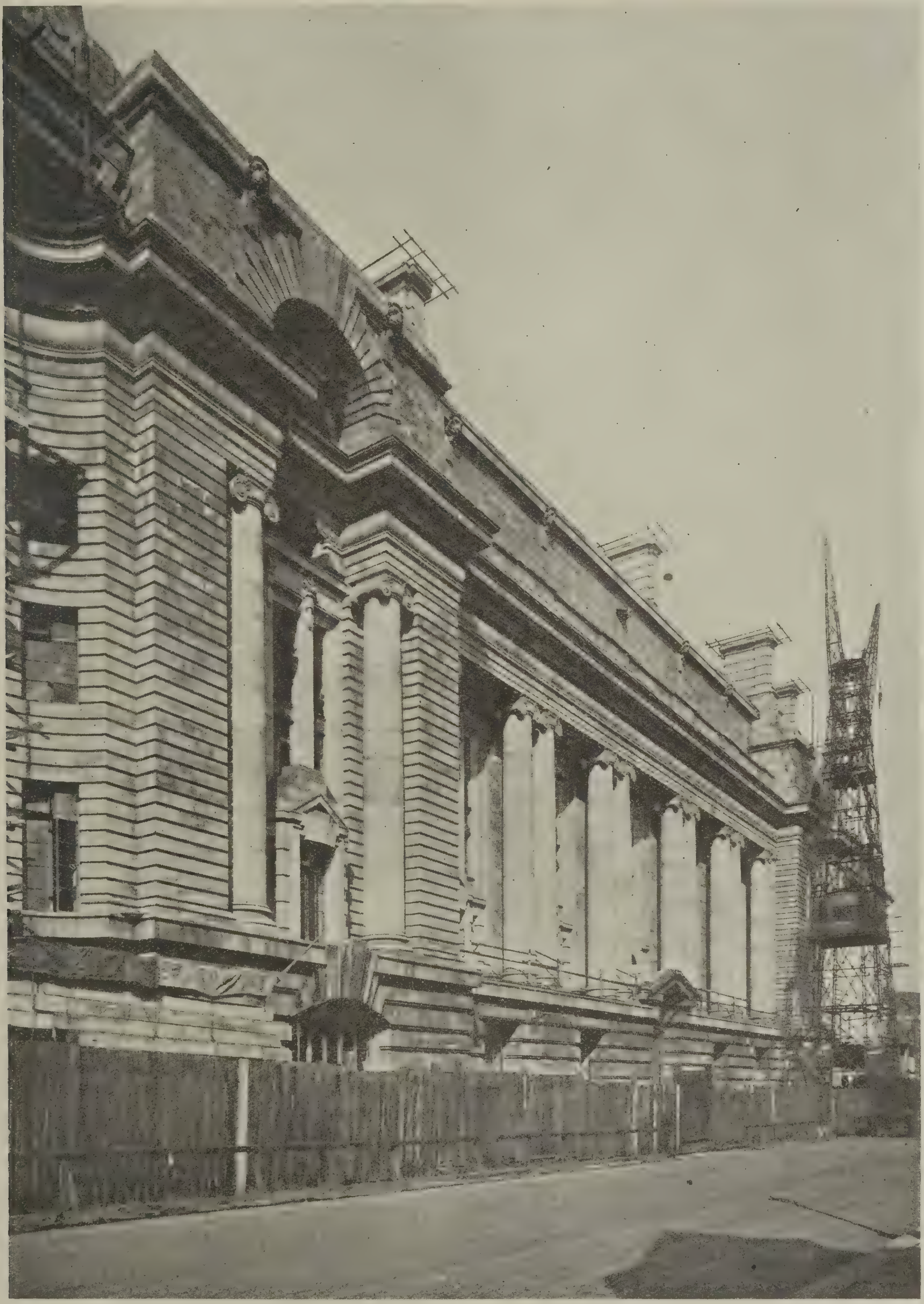
G. HOLT.



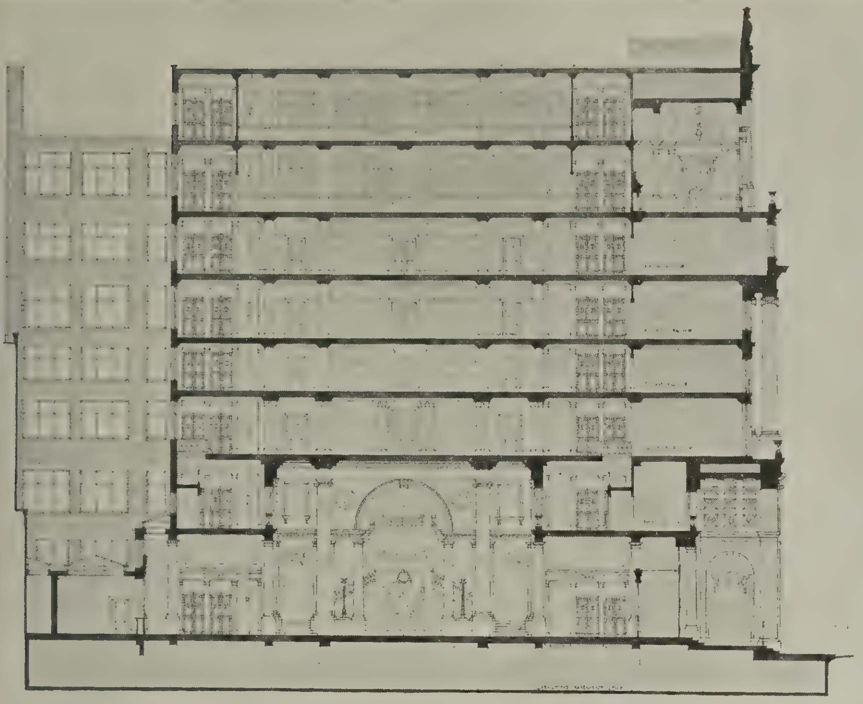
REBUILDING OF THE LONDON COUNTY WESTMINSTER AND PARR'S BANK, LOTHBURY, LONDON.

Current Architecture. 74.—The New London County Hall: Detail of Elevation to Belvedere Road

Ralph Knott, Architect, with W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the L.C.C.



The New London County Hall being now well on towards completion, one is able to appreciate something of the dignity of its architectural character. Stylistically it may be said to follow the severe phase of the English Renaissance, but with a considerable measure of freedom from the more arbitrary restrictions of architectural orthodoxy. The above view shows the centre portion of the front to Belvedere Road. The entrance on this side is primarily intended for ceremonial purposes.



SECTION A–B

Why Apple-Green?

Why do the designers of iron bridges cover them with apple-green paint? And why do they make the outrage worse by adding gilt wherever room can be found for it? Hammersmith Bridge is bad enough even as it is, with the vivid green toned to dinginess by London's smoke. Its first state must have been appalling.

There is another example at a famous beauty spot on the Thames. At one time a beautiful wooden bridge graced one of the prettiest scenes on the river. It fitted into its setting as a bird into its nest. There was nothing in its lines or its colouring to jar the most sensitive æstheticism. It was a delight to the eye. To-day the growing traffic passes over a rigid, ugly, iron structure. It has no curve about it. It is uncompromisingly angular. It has all the strength and all the cast-iron uprightness which, as we fondly believe, distinguishes the British nation. That is bad enough, but to the ugliness of its lines has been added the shrieking challenge of a vivid green coat of paint. In fairness to those who planned it we may agree that the trees, which add a distinct charm to the glories of the place, have green leaves. But no leaves that ever coyly unfolded to the spring sun have a green coat like the bridge. Unhappily, there is not enough smoke to darken the paint and tone it more to the key-note of the place. So the bridge stands out in all its vivid, uncompromising ugliness, a bold challenge to a beauty it cannot destroy but can and does disturb.

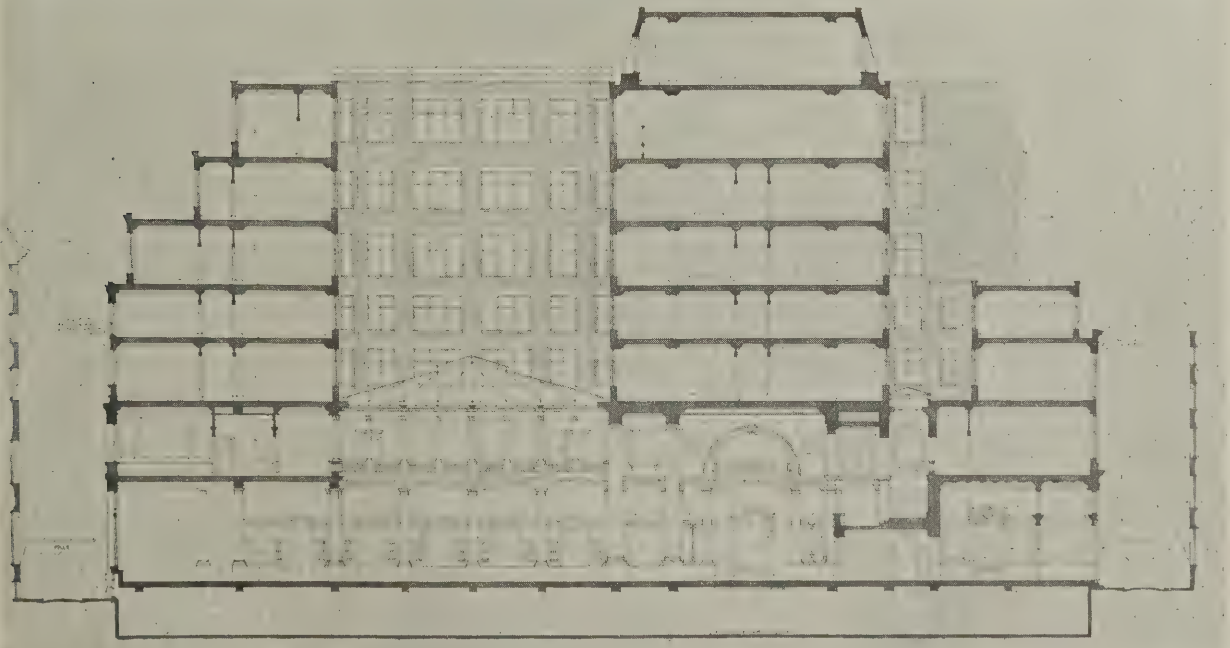
This is an age of steel and iron. Let us hope it will not, too, be an age of apple-green paint. There is no artistic or practical excuse for this outrage on taste. The main point is the preservation of the metal. Any colour will do. It is the paint that counts. As no amount of paint and no alien colour can disguise the nature of the material, there is no reason at all for vivid colours. In any case, it is hard to understand why apple green should be so high in favour. Why not vermilion, or sky-blue or orange?

The case against apple green and any other shade except those that suggest iron itself is the whole case for art. The natural colour is always the right one. That is why, for example, painted furniture is bad art. It is why a stone front to a brick building is a serious breach of the canons of taste. To put it shortly, art scorns things which are not what they seem. It is not the function of the artist to disguise. It is his business to express the beauty that lies hidden. It is not his work to conceal but to reveal.

After all, art is ethical in its essence, for it is of the spirit. And because it is ethical it is honest. That is why apple-green iron is bad art. It is false to Nature. You may paint it grey or black or russet brown. That is fitting and it is frank. But any other colour is manifestly wrong.

Rather a pinewood door that is frankly pinewood than one elaborately grained in imitation of oak or walnut. Rather a brick front to a brick church than stone in front and brick behind, where no one sees it. Let us have no more apple-green paint on iron bridges.

CROSSLEY DAVIES.



SECTION C–D

REBUILDING OF THE LONDON COUNTY WESTMINSTER AND PARR'S BANK, LOTHBURY, LONDON: SECTIONS.

London's New County Hall

Progress of the Work

THE development of London's New County Hall building, and its near approach to constructive completion—as regards the portion now being dealt with—is an event of considerable architectural importance. Few monumental buildings of such size have been attempted in Europe or been so favourably situated for seeing them to advantage. The parallel French building—the Hotel de Ville of Paris—though effectively placed, can hardly be said to have so fine a site, while despite its general magnificence, especially as regards internal finish, it possesses neither the actual size nor does it convey the sense of scale and dignity already so apparent in its English equivalent.

As regards London buildings, Somerset House and the Houses of Parliament naturally occur to the mind as comparable in character and situation with the County Hall. The former is approximately 500 ft. long by 330 ft. in width, while Barry's great building is 870 ft. by 280 ft. in extreme dimensions. The New County Hall when completed will be 750 ft. long by an average width of rather more than 300 ft. Its site is roughly 6½ acres in area, of which about 2½ acres represents reclaimed river foreshore. That the site is historic needs no argument, and, as a case in point, it will be remembered that the foundation excavations exposed a boat of the Roman period—probably of the latter part of the third century A.D.—now housed in the London Museum.

Inception of Scheme

Details of the earlier history of the New County Hall scheme are, perhaps, hardly necessary, but it may not be amiss to remind our readers that an international competition was held in two stages in the year 1907, to obtain designs for the building, and was settled early in 1908 in favour of Mr. Ralph Knott, who was then appointed architect for the new building in association with Mr. W. E. Riley, R.B.A., F.R.I.B.A., the then architect to the Council, in whom was vested discretionary power in all matters relating to internal economy, building construction, and stability. Mr. Riley's experience as an architect is probably unique in this country, and it can hardly be doubted that great advantage has accrued to the undertaking in having had, from its inception, the benefit of his judgment and advice on the more practical aspects of the problems involved. The time has, perhaps, not yet arrived at which it is appropriate to speak of Mr. Knott's part in the development of the great building which, at a relatively early age, it fell to his lot to design, but it seems clear already that the choice made was an eminently suitable one, and that, as a result, London is likely to be presented with a notable and beautiful building which will worthily represent the important body charged with its government and administration.

Style of Building

The style of the building may be described as of the severe phase of English Renaissance, interpreted in a modern spirit, with a considerable measure of originality and freedom from the more arbitrary restrictions of architectural orthodoxy. The treatment of the roof, the central portion of the river front, and of the end "pavilions" are cases in point. Even on the long frontages the proportion of height to length is very satisfactory and pleasing, though these façades will be at a disadvantage until the northern bays, required to complete them, are added.

The Plan

The plan adopted for the building (see pages 456-9) differs materially from that submitted in the competition. It embodies various features that were subsequently considered desirable to produce a satisfactory arrangement of plan, including the straightening up of the old irregular Belvedere Road frontage to a new improvement line. As now planned the council chamber forms the centre of the building, being placed at the intersection of the longitudinal and two transverse axes, the latter being at right angles to the river and Belvedere Road fronts respectively. The cross blocks are placed at right angles to the longitudinal axis, which, as it happens, is practically due north and south, and in all blocks direct natural lighting is provided to both the rooms and corridors. The Members' Courtyard, with entrance drive from Westminster Bridge approach, is an interesting feature of the plan. By its means members of the Council are brought in direct touch with their own apartments in the building, centering around the council chamber.

Another means of access to the members' portion of the building, intended primarily for ceremonial purposes, is from the large entrance hall (85 ft. by 32 ft.) in the centre of the Belvedere Road front, at the ground floor level, from which a wide straight staircase leads up to the eastern lobby of the chamber. This stair is 15 ft. in width, and its side walls, which are lined with marble, support a colonnade carrying the barrel-vaulted ceiling of the staircase intersected by the groins of the semi-circular windows which light it. The walls of the corridor and lobbies surrounding the council chamber, with their cross arches, are lined with white marble—a considerable amount of which is Pentelic, from the old Athenian quarry—relieved by panel bands of Sienna or Cipollino. The columns, which are freely used in the decorative treatment of this portion of the building, are of black Belgian, Bleu de Savoie, or Ashburton marble. The finish of the marble generally is that known as "eggshell" polish. The square voting lobbies, which occur north and south of the chamber, are top lighted, and are to be lined with Indian laurel wood panelling up to the column screens. The principal floor corridor is vaulted in plaster, and will be lined below with oak panelling. It is 10 ft. in width, and on office floors above 7 ft. 6 in.

Council Chamber

With regard to the chamber itself, the plan is approximately octagonal, with three entrance doors and one private door for the chairman, and lighted by four long-shaped windows, above the high dado, in the shorter sides. Above the entrance doors occur spacious galleries (seating about fifty persons each), which overlap the lobbies outside, on the level of the chamber floor. Three galleries are for the public and one for use of the Press. The height of the chamber is 55 ft., and its area about 3,500 sq. ft. The walls are lined with a high marble dado up to the gallery level—the plinth and capping are of black Belgian and the filling between them of Greek Cipollino, from the Island of Euboea, the quarry of which up to twenty years ago had not been worked since the time of Justinian. Above this the walls will have a plaster finish, the ceiling being of decorative plaster.

The very beautiful columns supporting the lintols of gallery openings are monoliths of rare Veine Dorée marble, quarried over 5,000 ft. above sea level in the Italian Alps. The seating is arranged on the usual horseshoe plan, stepped up from the central "well" of the floor, and the joinery will be carried out in oak. It is hoped to cover the chairmen's seats on the dais with a veneer of very old oak taken some years ago from a London excavation.

The architectural setting to the doorways of the chamber, with their canopies, are of black Belgian marble. Near by in the northern cross block is situated the largest of the many committee rooms, intended primarily for education purposes, and having accommodation for the public and the Press. By means of sliding screens it is divisible into three, as occasion may require. The large central division of this room has a barrel-shaped ceiling, intersected by the groins of the round-arched window heads and the gallery openings. As with most of the rooms on the members' floor, it will be lined with oak panelling, treated in a broad and simple way. The wood carving generally is by Mr. George Alexander, of Chelsea. The flooring throughout the building, apart from the two basement floors, will be of English oak blocks. Windows will be fitted with steel casements.

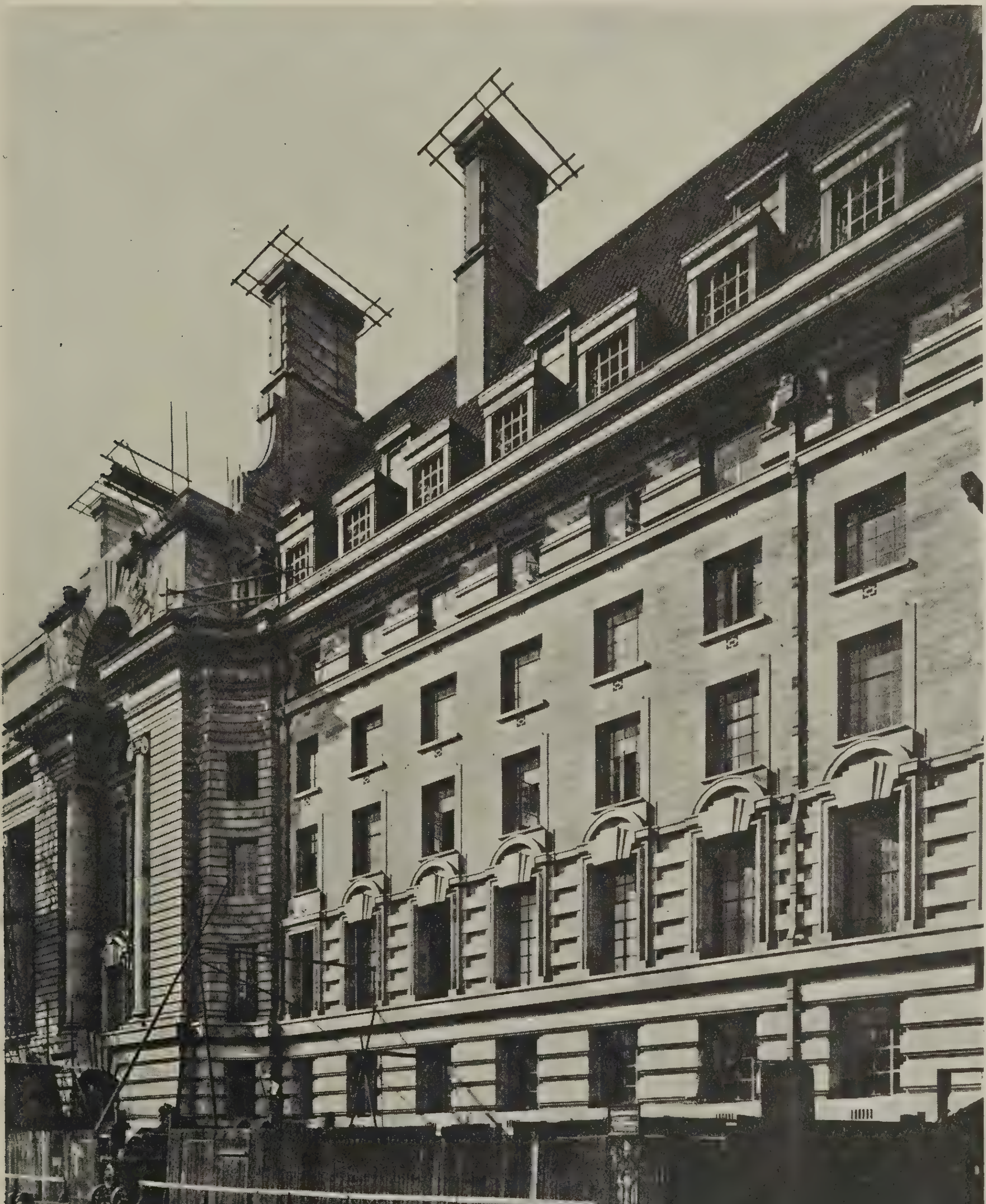
River Front

The crescent of the river front is probably the most striking architectural feature of the building, with its large Ionic order embracing four storeys, columns over forty feet in height, and bold, sweeping, horizontal lines. The connecting chord across its terminating pavilions encloses the members' terrace, raised well above and disconnected from the new embankment road passing in front of it, and a few feet lower than the principal or members' floor itself. At or adjacent to the northern end of the crescent are the members' refreshment rooms—at its southern end the reading room and library, with access from and to the terrace in both cases. Within the curve of the crescent block are contained the private rooms of the chairman and vice- and deputy-chairmen of the Council, and the party whips, conveniently near to the council chamber. It need hardly be said that the view from the river front looking out over the water and the traffic of Westminster Bridge towards Whitehall, the Houses of Parliament, and the Abbey, provides a picture of one of the most beautiful and interesting aspects of London life. The height of the main floor of the building is 16 ft., while the office floors have an average height of 11 ft. 6 in. to 12 ft. floor to floor.

We have before referred to the rectangular members' courtyard and its approach

Current Architecture. 75.—The New London County Hall: Part Elevation to Belvedere Road

Ralph Knott, Architect, with W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the L.C.C.



This view shows a portion of the façade to the right of the main entrance on the Belvedere Road side of the building. It conveys a good idea of the general architectural character of the elevations, which are now generally completed. The roof is a pointed one, covered with red tiles.

from Westminster Bridge front. The heavily treated, stone vaulted carriage way, with its granite base, is a most interesting and impressive feature of the building. Entering it from the public roadway the vista terminates in the members' entrance doorway, finished with a semi-circular arched head, and flanked on either side by pedestals designed to receive bronze lamps. The façades of the four blocks of building giving on to the courtyard are treated similarly to the external fronts—Portland stone facings on a granite substructure and a steep-pitched roof with two stages of dormer windows.

Roof Treatment

While on this aspect of the building, attention may be drawn to a treatment of roof quite unusual in this country, the prominence of which is to be emphasised by the intention to cover it with Italian roofing tiles, of rich red colour, some of which are, in fact, already laid at the northern end of the building. It will be of interest to note what effect the weather will have upon this tiling in the course of time, as also upon the sheet copper with which the dormer windows are being lined, and which is intended to form the covering of the flèche destined to be the central feature of the crescent roof.

The height of the main cornice of the building is, roughly, 90 ft. above the foundation, the ridge of roof 130 ft., and the top of the flèche 190 ft. The structure embraces nine storeys, the two lowermost being the basement and sub-basement, devoted more particularly to storage purposes. Exclusive of these, and with the further exception of the first floor allotted to members and heads of departments, practically the whole of the building will be required for the accommodation of the Council's office staff. The rooms intended for the latter are being treated in a severely simple way, and, indeed, extraneous or unnecessary ornament is being generally avoided in the treatment of the building.

The medical officer's department includes laboratories for various uses, and rooms for the medical examination of school children. Luncheon rooms for the Council's staff are provided for on the sixth floor of the crescent block, with provision for the catering service and its staff above, and lift connections with the members' floor, basement larders and stores, and with the goods delivery road. At the extreme north end of the building, when it is eventually extended and completed, will be a roadway connecting Belvedere-road with the embankment, thus securing, moreover, a lighting area for the northern front. Off this roadway will be formed the goods delivery and service cartway leading into the internal area of the building adjacent to the boiler house (beneath the large committee room), by which means coal and other fuel will be delivered and the general supply of material and stores maintained.

The figure sculpture in Portland stone and bronze, above the heads of the pavilion windows of the principal floor, is the work of Mr. Ernest Cole, and Mr. C. H. Mabey, of Vauxhall, is responsible for architectural carving in stone.

Heating and Ventilating

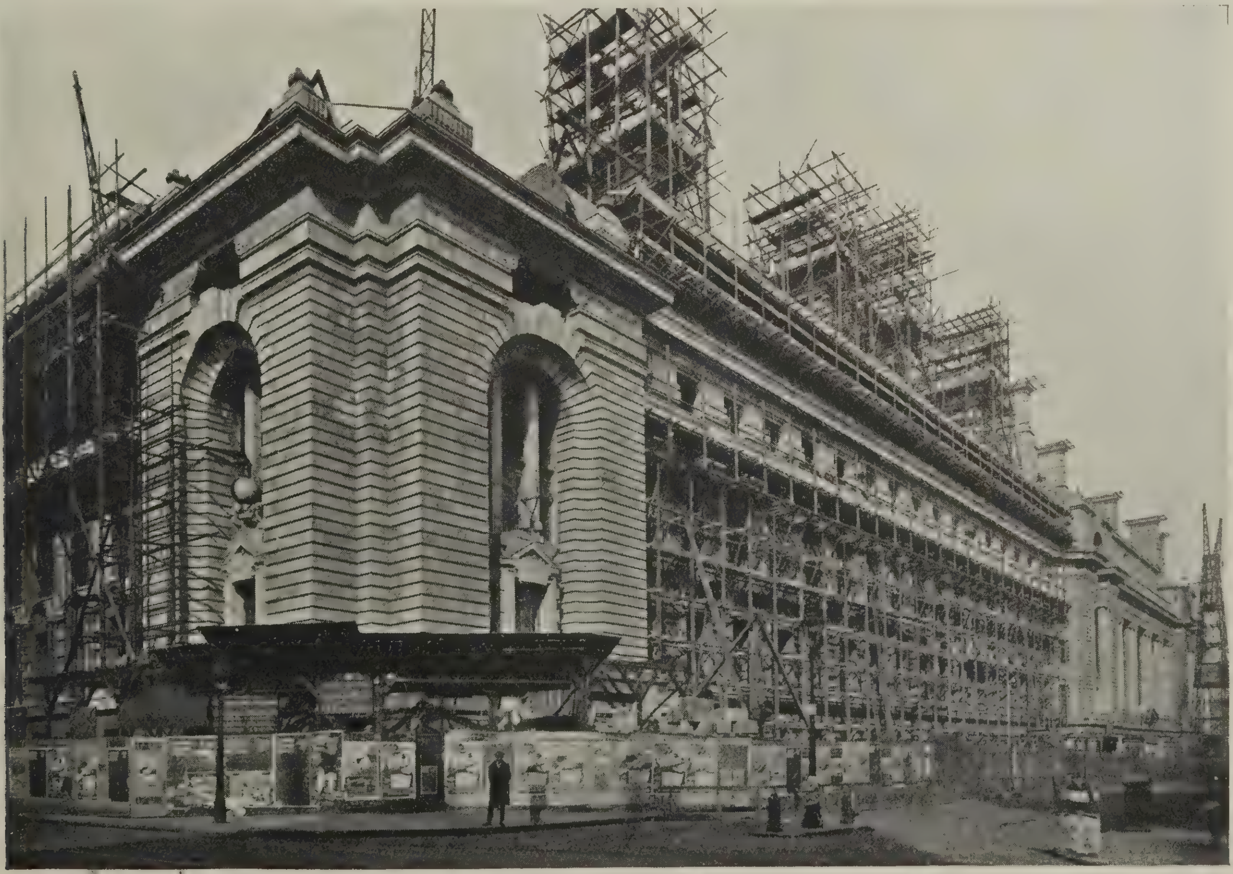
The heating of the building will be effected generally by means of a low pressure hot water system, the water being heated in four boilers of the marine type, and circulated by a central pumping plant. Two boilers of a similar type will be used to provide steam to the cooking apparatus, to calorifiers for the hot water services, and to the various air-heating batteries. The council chamber and the education committee room will be heated and ventilated by a system combining direct radiation with a supply of warmed humidified and washed air.

The ventilation of the smaller committee rooms and offices generally will be by means of extraction fans connected with ducts over the corridors, to which vitiated air is drawn through gratings in the upper part of each room. The entering air will pass through specially controlled inlet gratings behind those radiators which occur on external walls.

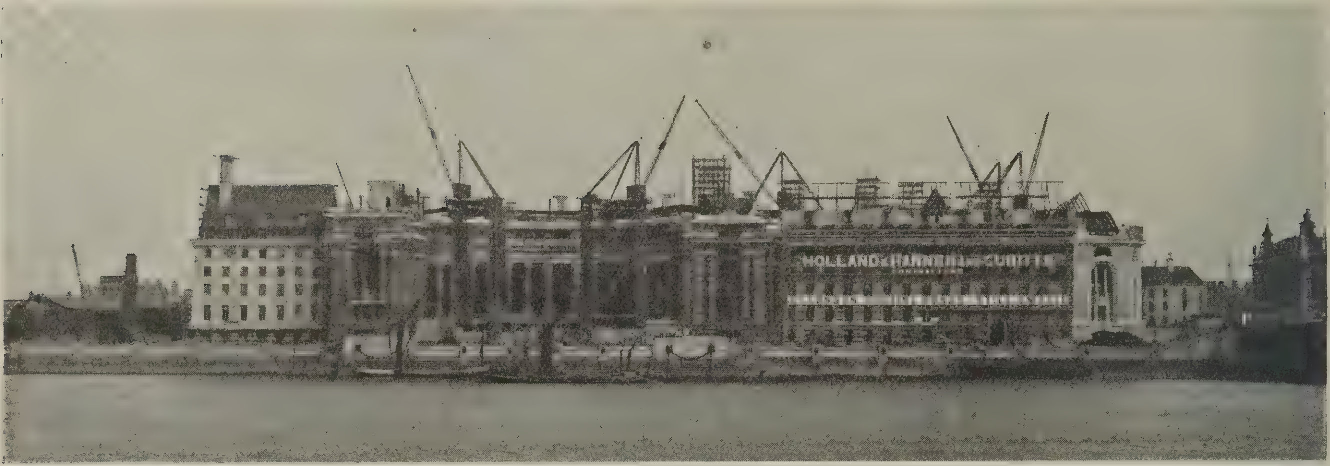
The sub-basement is considerably below the ground level, and a positive supply of warmed air will be forced in to ensure that this part of the building is maintained in a satisfactory condition.

Construction

With regard to the course of construction generally, the raft foundation was designed and carried out under the superintendence of Mr. Riley. It is of concrete, 5 ft. in thickness, laid directly upon the top of the ballast bed found at a level of minus 8 O.D. The deep excavation necessitated thick retaining walls to support the ground and public roads, varying from 10 ft. at the bottom to about 4 ft. at the top. When the building is completed, the " tank " construction will be closed in by the northern retaining wall connecting up with the river wall. The contract for the foundations was carried out by Messrs. F. and H. F. Higgs, contractors, of Herne Hill, S.E. Immediately upon their work being completed, the construction of the substructure—or two lowermost floors—of the building commenced, the contractors in this case being Messrs. Chas. Wall, Ltd. On completion of the substructure the main contract for the superstructure commenced in August of 1913, and



THE NEW LONDON COUNTY HALL: BELVEDERE ROAD FRONT FROM SOUTH END.



GENERAL VIEW OF THE NEW LONDON COUNTY HALL FROM VICTORIA EMBANKMENT.

was timed to be completed in three years, the contractors being Messrs. Holland and Hannen and Cubitts, Ltd., of Gray's Inn Road. As will be readily understood, the intervention of the war upset all calculations of time, and otherwise, with this as with other undertakings of a similar kind. Work was eventually stopped, and only resumed again in the summer of 1919, with the total result to date best appreciated in a view of the building itself. The commonly experienced difficulties in the supply of structural steelwork have been a great handicap to progress, despite which the roofs are now nearing completion. The walling generally is of London stock bricks strengthened, where unusual loads are encountered, with blue brickwork in cement. The external frontages above the granite faced substructure are faced with best Whitbed Portland stone, and the internal lighting areas with either white-glazed or Arlesey bricks.

Floors and flat roofs generally are of the usual steel joist and concrete construction. The structural work includes built-up steel stancheons where required by the planning of the building; and the steel framing for the roof, which includes two floors of offices, has required special treatment, owing to its somewhat unusual form and the heavy loads to be carried.

Mr. Knott's consultant engineers for structural steelwork are Messrs. Whitaker, Hall and Owen, of 1 Gresham Buildings.

The lighting, bell, and lift installations and other electrical works required for the building are being carried out under the direction of the Council's Chief Engineer, Mr. G. W. Humphreys, C.B.E., M.Inst.C.E.

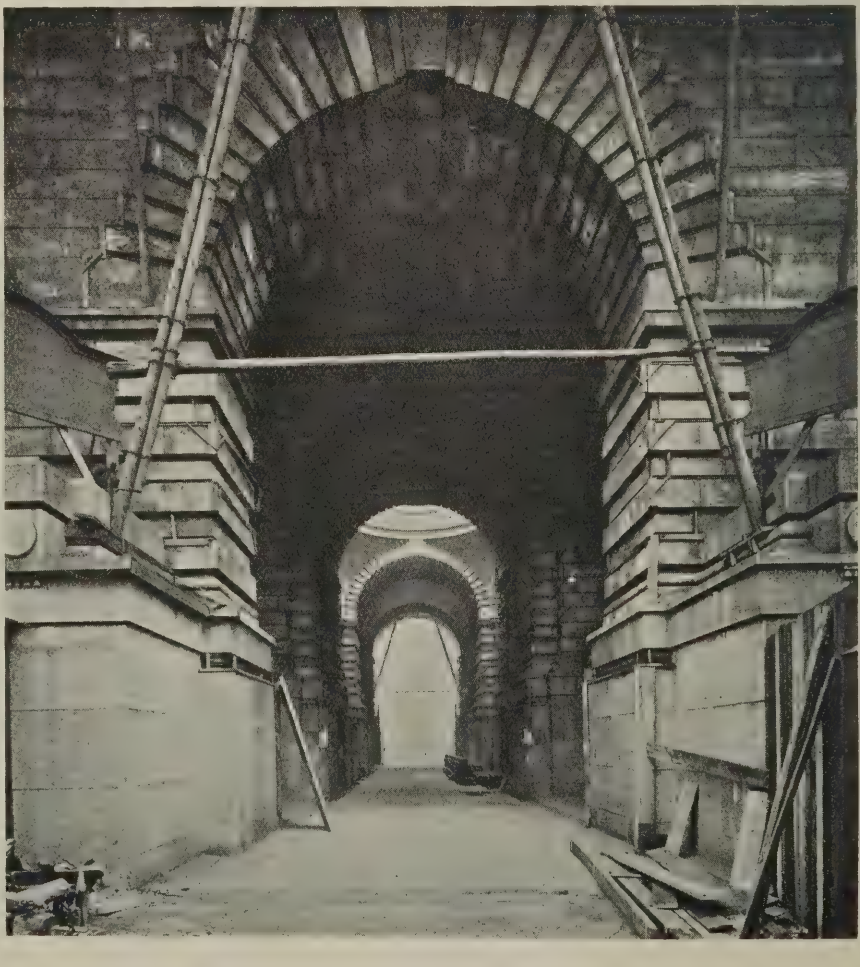
The various sub-contractors who, under Messrs. Holland and Hannen's general control, are carrying out specialist portions of work, include the following:

Structural steelwork, Messrs. E. C. and J. Keay, Ltd., of Birmingham, and J. Westwood and Co., Ltd., of Millwall, E.; decorative marble work, Messrs. Farmer and Brindley, of Lambeth; steel casements, Messrs. Henry Hope and Sons, of Birmingham; sanitary work, Messrs. Doulton and Co., of Lambeth, S.E.; general heating system, Messrs. J. Jeffreys and Co., Ltd., in association with Richard Crittall and Co., Ltd., G. N. Haden and Sons, Ltd., and F. A. Norris and Dutton, Ltd.; heating and ventilation of council chamber and large committee room, Messrs. Buffalo Forge Co., 24, Buckingham Gate; general plastering, Messrs. A. and S. Wheater, Ltd., Leicester Place, W.C.; decorative plaster, Messrs. Boekbinder and Sons (London), Ltd., Tollington Park, N.; Ornamental leadwork, Mr. G. P. Bankart, Bromsgrove; floor and wall tiling, Messrs. W. B. Simpson and Sons, St. Martin's Lane, W.C.; woodblock flooring, The Acme Flooring and Paving Co., Ltd.; roof tiling, Messrs. Ames and Finnis, 37 and 38 Strand, W.C.; patent roof glazing, Messrs. Pennycook; lantern lights, British Luxfer Prism Co., Ltd.; bronze panels, Messrs. J. W. Singer and Sons, of Frome; Copper finishings to dormer windows, Messrs. F. Braby and Co., Ltd., Euston Road; asphalte, La Brea Asphalte Co., 104 High Holborn, W.C.

[An outstanding feature of the work by the last-named firm is the entire covering with asphalte, both of the roof and the exterior walls, of the analyst's room (built in concrete) on the roof of block 12, section c. The floor inside this room is also covered with asphalte, with a coved skirting around the walls.]

The first of the lifts about to be installed is being provided by the Express Lift Co., Ltd.

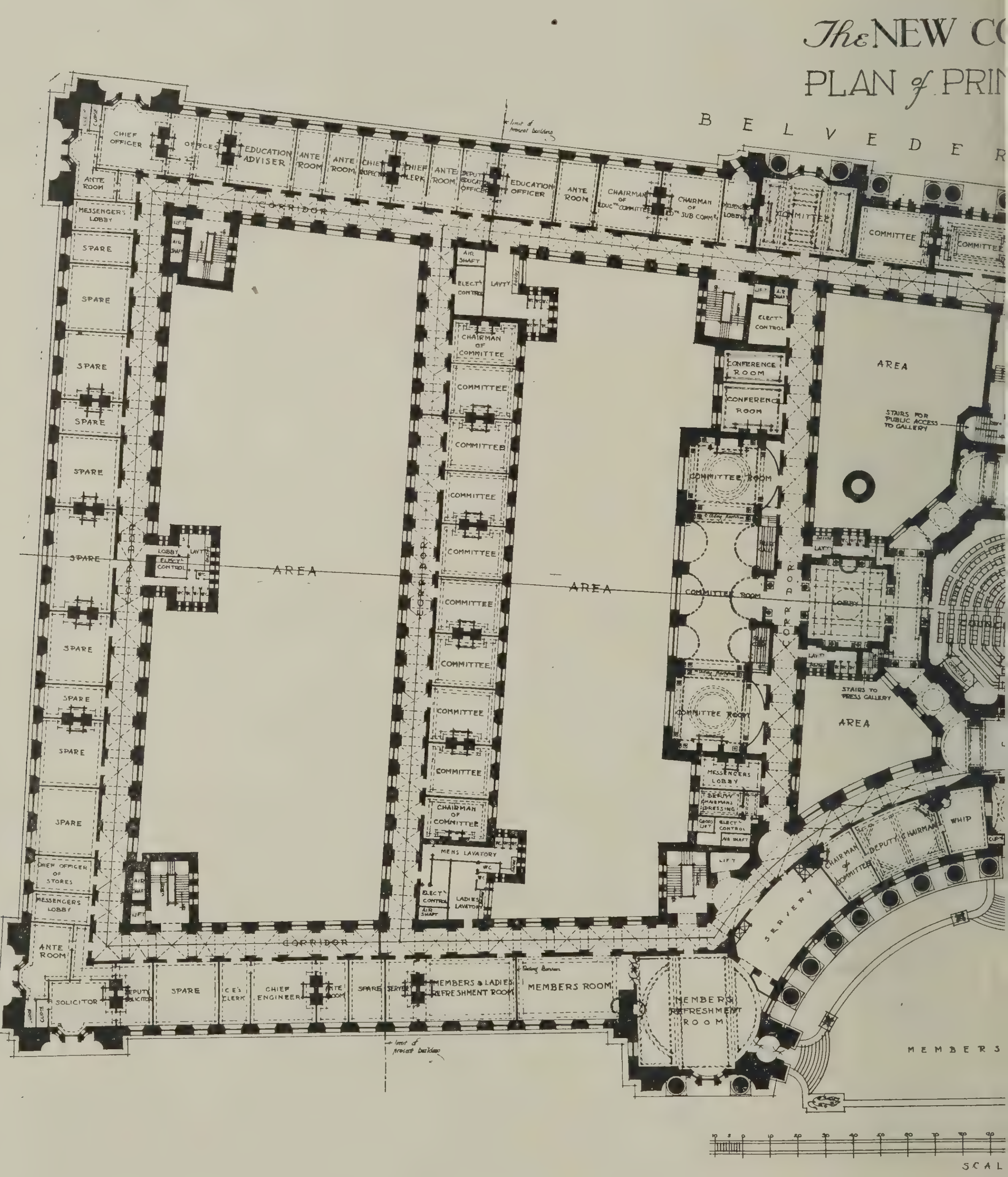
The principal clerk of works for the work generally is Mr. W. H. Hookham, who is assisted by Mr. A. H. Castle and Mr. W. B. Johnson.



DETAIL OF ENTRANCE DRIVEWAY FROM WESTMINSTER BRIDGE.

Current Architecture. 76.—The New

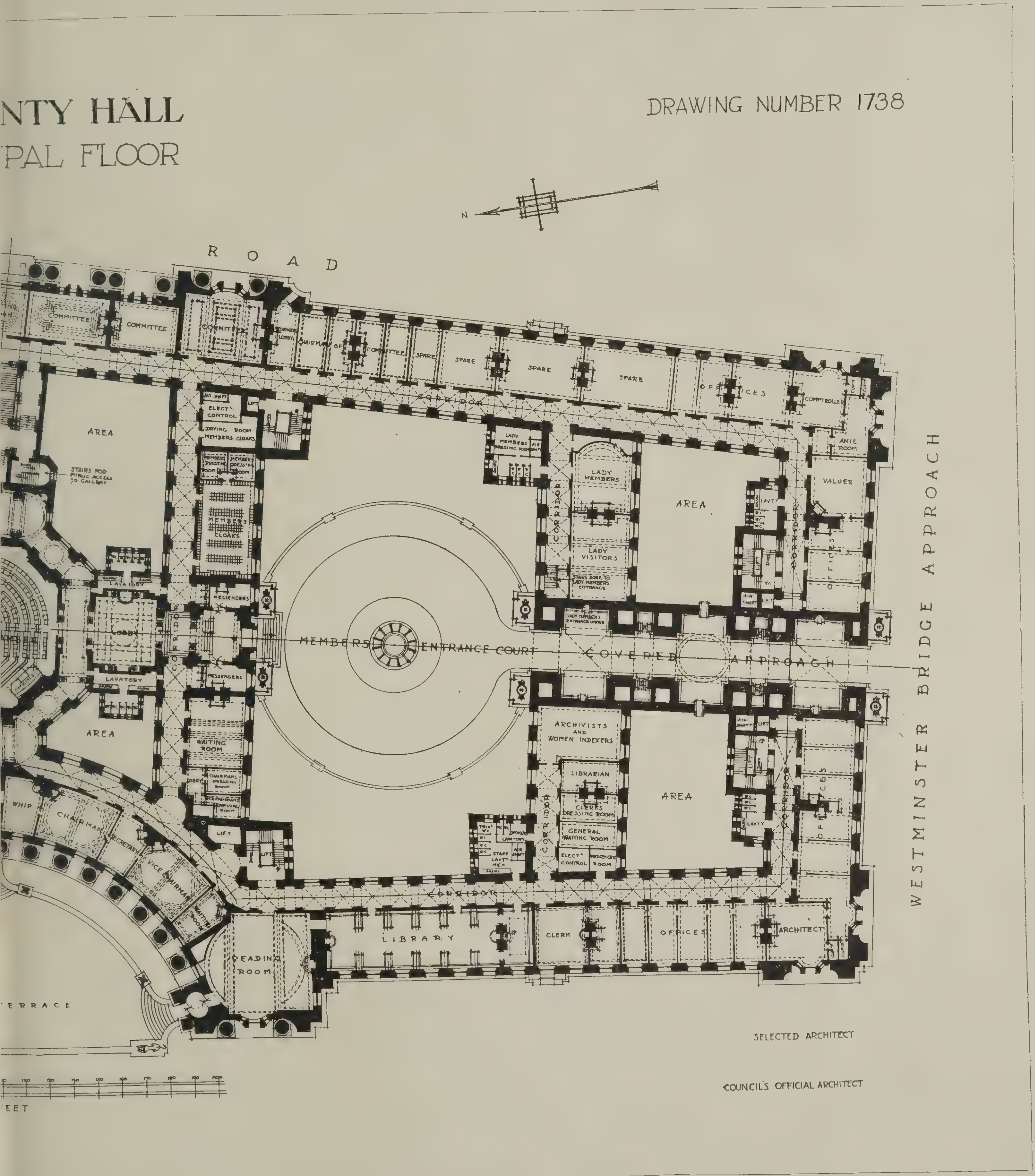
Ralph Knott, Architect, with W. E. Riley, F.R.I.



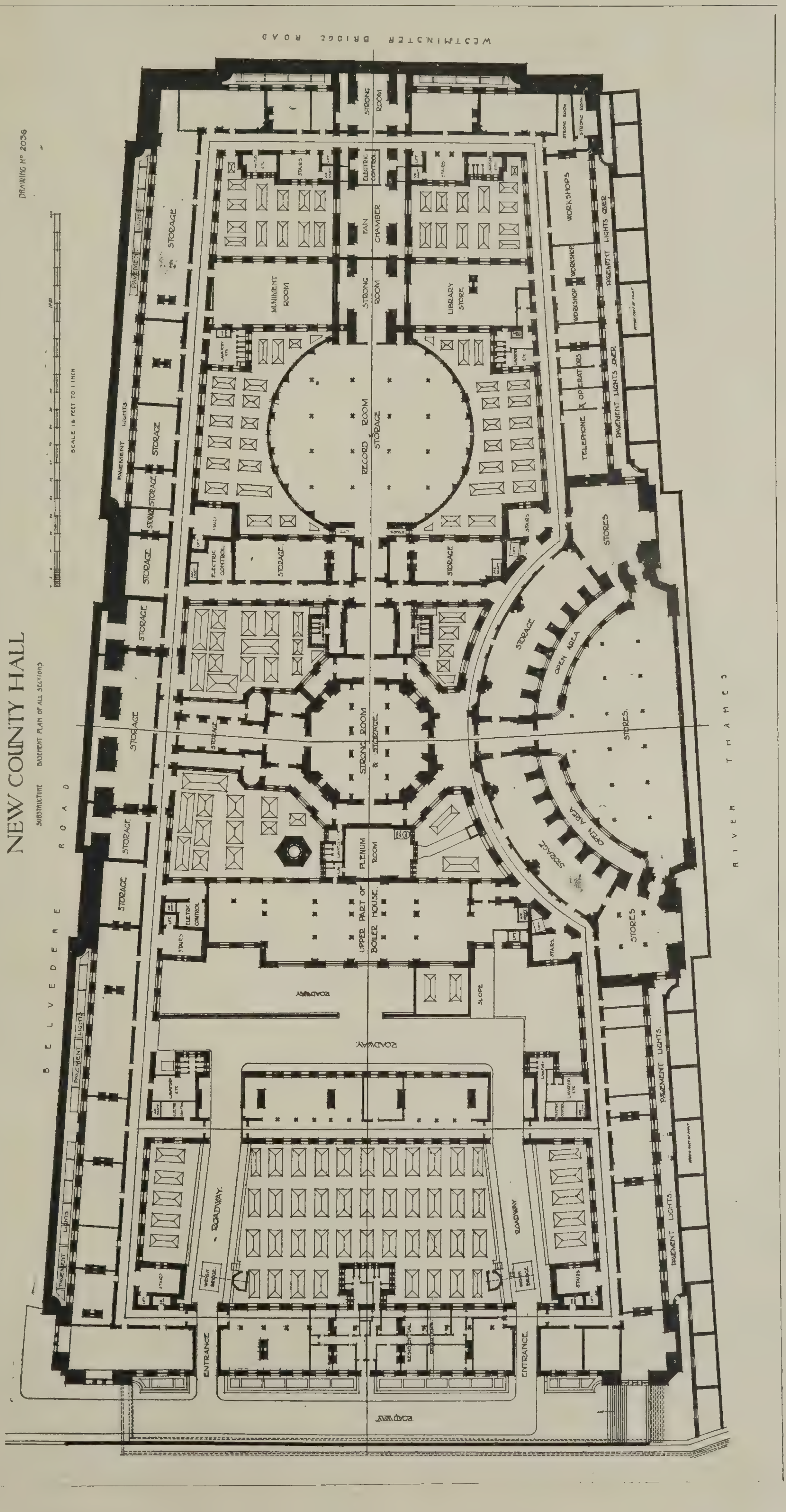
The plan adopted for the New County Hall differs materially from that su
desirable to produce a satisfactory arrangement of plan, including the straig
planned the Council Chamber forms the centre of the building, being placed
to the river and Belvedere Road fronts respectively. The cross blocks are p
south, and in all blocks direct natural lighting is provided to both the
approach, is an interesting feature of the plan. By its means, members of
around the Council Chamber. A

don County Hall : Plan of Principal Floor

, M.Inst.C.E., R.B.A., Official Architect to the L.C.C.



ed in the competition. It embodies various features that were subsequently considered
g up of the old irregular Belvedere Road frontage to a new improvement line. As now
e intersection of the longitudinal and two transverse axes, the latter being at right angles
at right angles to the longitudinal axis, which, as it happens, is practically due north and
and corridors. The Member's Courtyard, with entrance drive from Westminster Bridge
Council are brought in direct touch with their own apartments in the building, centering
of the basement is reproduced on page 459.



THE NEW LONDON COUNTY HALL: BASEMENT PLAN.

RALPH KNOTT, ARCHITECT, WITH W. E. RILEY, F.R.I.B.A., M.Inst.C.E., R.B.A., OFFICIAL ARCHITECT TO THE L.C.C.

Land Settlement Building Work of the Ministry of Agriculture and Fisheries*

By SIR LAWRENCE WEAVER, K.B.E., F.S.A., Hon. A.R.I.B.A.

THE relationship of Government Departments to the practice of architecture has long been the subject of discussion in professional circles. This is my excuse for devoting the greater part of this paper to methods of organisation both at the headquarters of the Ministry and in the County Councils on whom the administration of the main portion of the task was devolved, first, by the Small Holdings and Allotments Act of 1908, and later by the Land Settlement (Facilities) Act of 1919. The work of land settlement for ex-Service men is the outcome of a pledge given during the war to men in His Majesty's Forces and to women who worked on the land during six months of the war, a pledge clearly repeated at the last General Election, that those who had fought for the land should have access to it as small holders. This offer was, of course, subject to their being found suitable both as regards experience and the possession of enough capital. The administration of the Land Settlement (Facilities) Act of 1919, which gave statutory force to this pledge, divides itself into three main steps (*a*) acquisition of the land; (*b*) its division into suitable areas to meet the varying needs of would-be small holders; (*c*) the adaptation of existing or the provision of new houses and farm-buildings. . .

After giving particulars as to the manner in which the Ministry of Agriculture and Fisheries and the County Councils had grappled with the Land Settlement problem, Sir Lawrence said: My mind goes back to the beginning of 1919, when Lord Ernle asked me, after the completion of my task as Controller of Supplies in the Food Production Department, to take in hand the supervision of the building programme of Land Settlement (my promotion to the charge of the whole of the Land Department did not come until towards the end of the year). I then found the Ministry without a single architect to supervise the spending on building by County Councils of about eight millions of money.

Superintending Architects

Fortunately, the world of architecture was not strange to me. As my old friends walked out of the War Office with their demobilisation papers, I fell upon them. My first list of superintending architects included the names of Maxwell Ayrton, Oswald Milne, Clough Williams-Ellis, John Lee, and, last but not least, H. P. G. Maule, so you will admit that, whatever else my failures, I began the architectural side of my task with a notable team. It is true, I never hoped, or indeed asked, that they should desert the fierce joys and genial rewards of private practice for more than a short time, but I wanted to start well, and I did. Happily, I have retained Major Maule as chief architect, and Capt. John Lee as a superintending architect, and hope to keep them until the task is over, and with them are now a staff of about twenty of the keenest, ablest, most devoted and most enthusiastic fellows who ever laid a pencil to paper, and, I may add, ever coaxed or convinced a local authority to do that which is right in the eyes of a righteous architect. (Laughter.)

Without them I am persuaded that the extreme difficulties and complexities of the task would have landed me and the Ministry in the sea of failure and derision which has been known to engulf civil servants far more able and experienced than I shall ever be. You will please allow me to acknowledge here and now my debt of affectionate gratitude and admiration. I cannot break the Officials Secrets Act by revealing the words of a report of a Cabinet Committee which lately examined most closely into the administration and finance of Land Settlement. But I am allowed to be so far indiscreet as to reveal their opinion that if the Ministry's superintending architects had not shown great zeal and efficiency in effecting economies when supervising the building work of land settlement, the cost of fulfilling the Government's pledge to ex-Service men would be substantially greater than it is in fact. But that is what one expects of members of this Institute, and neither you nor I are astonished.

Small Holdings

Full opportunity was given to the Councils for the employment of architects in private practice, but I am free to confess that small-holdings architects appointed *ad hoc* or the existing county architects when they had experience of farm buildings have provided the best solution. Small-holdings work is a special branch of architecture, with very different problems from ordinary housing. First, the farm buildings are an exceedingly important part of the task, and each agricultural district has its own traditions and practices in the housing of stock and of crops, so that intensive local knowledge is of great value; secondly, the proportion of alterations to new work is abnormally high, and demands, therefore, an abnormal amount of supervision on the spot; thirdly, the work is so extraordinarily scattered over the country that in the present difficulties the actual organisation of building represents a far larger proportion of the whole task than in any other sort of work. We have found the best results from the intimate and continuous association of county land agent and architect, both whole-time servants of the Council, working in the same building, and visiting the works together. It is rare, though not unknown, to find a man with the required knowledge of both sides of the small-holdings problem who can tackle both land and buildings.

I have been very disappointed at the lack of success, speaking generally, in counties where architects in private practice have been employed for small holdings. It leads to delays in carrying out the work, lengthy correspondence about trifles which two colleagues would settle in three minutes, and it is more costly. I have come to the conclusion most reluctantly, but I am quite clear I am right. The fact that in a few, a very few, cases the employment of private practitioners has worked well does not affect my view at all. But let me say that I limit my opinion to the case of this highly specialised sort of work in the conditions in which it now has to be done. My personal view, for what it may be worth, is that it does not apply, and ought not to apply, to important public buildings in which architectural abilities of a very different order are required. The architect in charge of cottage and farm building schemes needs to be equipped with artistic talent, but must be even more an organiser and economist, whereas the architect of a public building must first and foremost be an artist, a qualification which the methods of recruiting for Government offices, and the terms and conditions of service therein, can hardly be held to ensure. In short, the qualifications desirable in the architect of public buildings are seldom found in a man fitted to be a good Government servant.

I come now to the building methods which the Ministry has encouraged councils to employ. Until lately, the difficulty which everyone has experienced since 1919 of getting a firm tender was peculiarly intense in the case of small-holding work, on account of the inaccessibility of the sites and the smallness of each contract. Builders were naturally unwilling to scatter their organisations to meet our needs when so many jobs were to be had in or near towns, and, even if they would consider it, their difficulty in getting skilled tradesmen to rough it in lonely districts accentuated their unwillingness. In many cases the only chance of getting anything started was for the council to set up a small works department, another practice of which I disapprove highly in principle, and should not sanction in normal times.

Throughout the task we kept steadily in view the need of employing local materials, and we have built in timber wherever local timber was available. In many cases there is a lot of standing timber on the estates, and this is cut and converted and used in farm buildings, fencing, etc., and even for rough house-carpentry, the men employed being in some cases the waiting small holders.

You will ask now what is our actual building achievement after all this effort. It is small enough when compared with the vast scheme of urban housing consisting of hundreds or even thousands of houses on a single site.

Expenditure Sanctioned

We have sanctioned the expenditure of £366,500 on the adaptation of existing buildings, and £1,636,000 on new work, a total of £2,002,500. This work is going forward—it is not merely on paper. I exclude the value of all plans provisionally approved which have not reached the stage of actual building, but this category represents a large bulk of serious work done during the last two years, and about to come to fruition.

Our total task will probably be only 3,000 new cottages and 1,900 sets of new farm uildings (in addition to the adaptation of undreds, perhaps it may even be thou-ands, of both), but they are spread over ixty-two administrative counties in remote orkshire valleys, on the slopes of Welsh ountains, and in the folds of inaccessible owns. I submit that our time has not een easily spent, and of the total per-onnel of my Department, numbering 450 eople, the building branch, from chief rchitect down to junior clerk, numbers nly forty-six.

---

* Extracts from a paper read before the R.I.B.A.

You are aware that it is a principle of ur Government that the building work equired by all Government offices shall e undertaken by one technical Department, H.M. Office of Works, and that ule was applied to the Ministry's own arm settlement estates, extending to bout 25,000 acres. Sanction was ob-ained, however, for the Ministry's build-ng branch to undertake the equipment f the farm settlement at Amesbury, Wiltshire. We there built thirty-two cottages to every sort of plan and in every sort of material, five of them to the specifications of the building experts of the Department of Industrial and Scientific Research. I will not burden you with details of the results, but, broadly, these are our conclusions. Traditional cob is hopelessly expensive unless you happen to have a group of men who are familiar with it, but it gives an admirable house. Pisé with the chalk soil of Amesbury is about the same price as brick, given always efficient shuttering, which I think we can claim to have perfected in a very simple form. Pisé gives a very sound wall, but the plan must suit the material, and experience is needed to achieve this. Concrete blocks of chalk, 12 to 1, made with any ordinary good machine, are thoroughly sound.

Timber houses well built we found no cheaper than brick. The greatest novelty, devised by the Research Department, was a concrete of chalk and cement, 20 to 1, mixed quite dry, and rammed between shuttering, which proved very satisfactory but no cheaper than brick, and that is a polite sort of way of saying it is dearer. Brick, indeed, held its own perfectly.

At a later date it was arranged that the Ministry should also equip its three Lincolnshire Farm Settlements—Holbeach, Sutton Bridge, and Wainfleet, and there we have garnered the fruits of our Amesbury experience in really inexpensive sound building, either in timber, brick, or in continuous cavity monolithic concrete walls erected with simple shuttering. Our policy now is dictated solely by the varying types of building labour we have available, and we keep all three materials going at once, changing our minds rapidly as the circumstances of available labour and materials change. This is possible at Sutton Bridge, because we have an estate of 6,000 acres coming into possession block by block over a longish period, and each block needs a very large proportion of new cottages and farm buildings. In Captain Ellison, an architect of a highly practical turn of mind, the Ministry has a chief building manager to whose skill and enthusiasm I owe a considerable debt.

Let me, in conclusion, say that at the beginning of the Ministry's building work in 1919 I sought the advice of the President of the Institute on many points with regard to the remuneration of architects for small-holdings work and other professional matters, and as you will assume, without my labouring the point, received much wise and valuable advice. Before the task of Land Settlement for ex-Service men is completed, the Ministry will need to approve the expenditure on equipment of between seven and eight millions as compared with £2,187,000 on schemes already sanctioned.

After the paper read by Sir Lawrence Weaver, a short discussion followed, in which Lord Riddell, Sir Douglas Newton, and Sir Sydney Olivier took part.

At the meeting at which the foregoing paper was read, H.R.H. the Prince of Wales was nominated as an Hon. Fellow of the Institute. Mr. John W. Simpson, President, occupied the chair, and among those present were Ladv Weaver, Lord and Lady Riddell, Lord Kenyon, Sir Sydney Olivier, Sir Frank Newnes, Sir George Barstow, Sir Douglas Newton (chairman of the Cambridgeshire County Council), and Lady Newton, Colonel Cornwallis, Miss F. L. Stevenson, C.B.E., the Right Hon. Lord Kenyon, Messrs. H. D. Vigor, S. Mager, A. T. A. Dobson, Edward Hudson, P. Anderson Graham, and Major A. T. Moore.

South Wales Institute of Architects: New President

Mr. Henry C. Portsmouth, F.S.Arc., who has been elected president of the South Wales Institute of Architects, is well known in Swansea and South Wales, where he has carried on a considerable practice for many years. After serving his articles with Messrs. Morris and Stallwood, of Reading, he was in 1884 appointed by a Cardiff firm of architects to take charge of their branch office in Swansea, and he eventually acquired their Swansea practice.

In 1897 he was instructed to visit France to investigate and report upon a special system of ferro-concrete construction, and upon his return he was engaged as architect for the erection of large flour mills and grain silos upon the system. These buildings were the first to be erected in reinforced concrete in the United Kingdom.

Mr. Portsmouth holds several professional appointments, including those of architect to the Royal Cambrian Institution for the Deaf and Dumb and the South Wales Institution for the Blind. He has also acted as architect for the Swansea Corporation in connection with housing schemes and other matters, and was for some years advisory architect to the Swansea licensing magistrates.

Mr. Portsmouth is a member of the Council of the Royal Institution of South Wales and holds the position of hon. art curator. He has been a member of the Society of Architects since 1892, and was elected a Fellow of the Society upon the formation of the Fellowship class. His son, Mr. Oliver S. Portsmouth, is now associated with him in the practice.

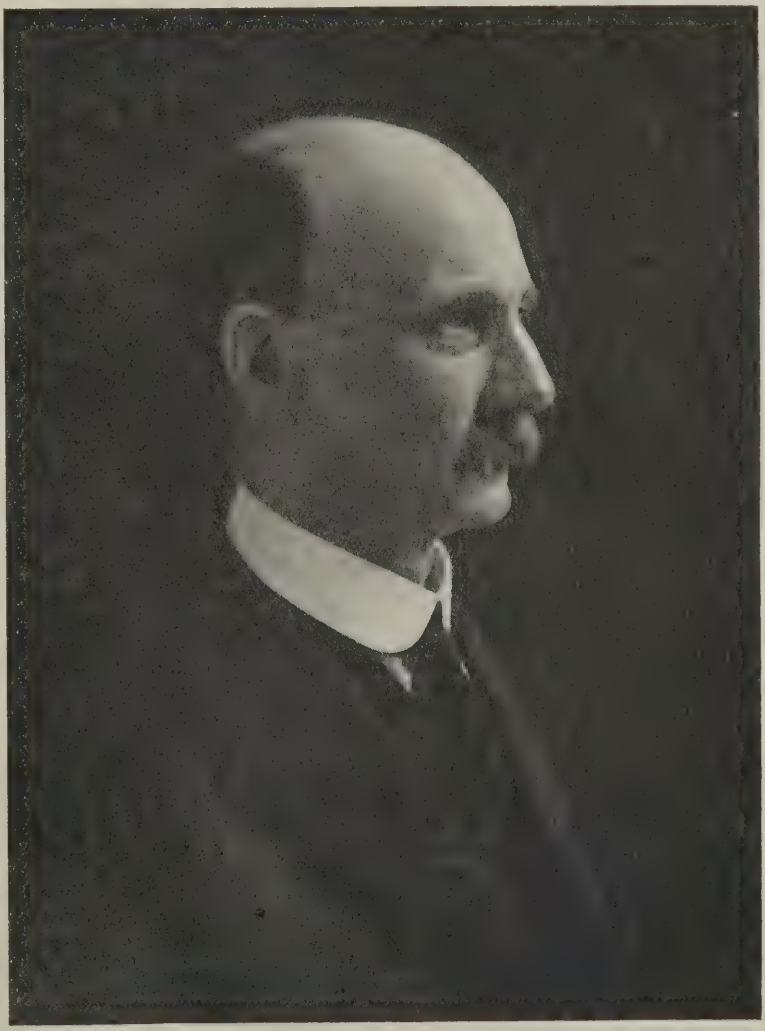


Photo: Aubrey Colquhoun, Swansea.

MR. HENRY C. PORTSMOUTH, F.S.Arc.

(*The New President of the South Wales Institute of Architects*).

The Building Trades Exhibition: A Plea for Improved Planning

By A. E. RICHARDSON, F.R.I.B.A.

LET it at once be said, with full emphasis, that this article is by no means intended to disparage the efforts made by the organising committee of the present exhibition at Olympia. On the contrary, it calls attention to the surpassing energy of those gentlemen who have worked whole-heartedly to make the present show attractive both to exhibitors and to the visiting public.

It is a pity, however, that the committee responsible for the plan arrangement of the exhibition did not think it advisable to obtain professional assistance and advice regarding not only the general lay-out, but also the decoration of the hall and the design of features ancillary to the exhibition stands.

On the Continent and in America it is vividly realised that art—comprising order, scale, colour, and, above all, scholarship—is a commercial asset of the first importance. On the other hand it must be confessed that the generality of British exhibitions fail signally in the preliminary arrangement. In most instances they appear to have no beginning and no end. The visitor, entering through the turnstiles after paying his money or showing his ticket, is confronted with a blaze of attractions and a confusion akin to that of Babylon, but a confusion of things more substantial than speech.

There is every reason for the adoption of an architectural plan to suit specific exhibitions. The late Imre Kiralfy was fully aware of the advantages attending a good, consistent, general scheme. Always, as he knew well, there should be an element of poetic imagination, made evident in the arrangement of a collection of stalls. According to established principles, every plan should have a hand and a foot; in other words, an introduction and a climax. In addition, if the plan is to be vital, the circulation should be good. That is to say, getting about the stands should be in the highest degree easy and pleasant. A great practical advantage of such a plan is that it enables the organisers to allocate space to exhibitors according to the relative importance of their exhibits, and also ensures that large stands or pavilions become focal points in the ensemble.

The design of individual stands presents a most difficult problem, for tastes differ to a remarkable degree, and "tastes" are complicated by business notions, but this difficulty could be met by the appointment of a jury of three, comprising an architect, a trader, and a member of the officiating committee. These three would approve or disapprove and advise upon the designs of stalls, and their decisions would be binding and final. Exhibitions, like buildings, can never be deemed successful unless they show the influence of a dominant idea. A mere name or title will not suffice to give a public fair the individuality essential to success if the dominant and characteristic idea be lacking. It will be argued, "How can an arrangement of passages, alleyways, and stalls help to impress the visiting public, who cannot be expected to understand anything other than visual impressions?" It is a superficial question, and the fact remains that the value of an architectural lay-out for an exhibition such as the one now in progress cannot be over-estimated. Here an excellent opportunity offers for the closer collaboration of all interested—of all grades in the building industry, from the architect and the contractor downwards.

Even if an exhibition is planned on subtle lines, with latent geometry in its arrangement, it cannot be expected that the public will do aught else but wander from stall to stall and not traverse the avenues and passages according to plan. The adoption of a definite idea for exhibition purposes does not mean the regulations and control of frequenters; the idea, being architectural, is communicated to the spectator in a series of impressions which occur in sequence, if the plan is logical, and give emphasis to the whole, besides enhancing the perspective and imparting variety to the ensemble.

It is urged that the ideas contained in this article shall be put into practice at future exhibitions, building trade or other; for it is only by combined effort that the right appeal can be made to the public, which remains to be educated to all that is best in building. It is quite certain that many persons who are in no way directly connected with the building industry make a practice of visiting exhibitions of this type to gather information regarding the structure, the heating and sanitation, the decoration, and the general equipment, of their homes.

Therefore it is essential that the exhibition itself be well-planned and comprehensive in arrangement; that the decorations be in good taste, the stalls well placed and simple in design, and that all other points be equally considered. The inclusion and exhibition of architectural designs is desirable, and there is no reason why specimens of sculpture and architectural carving should not be included.

The difficulties attending the formation of any exhibition of size can, as the French have proved, be reduced by the adoption of a good architectural scheme at the outset.

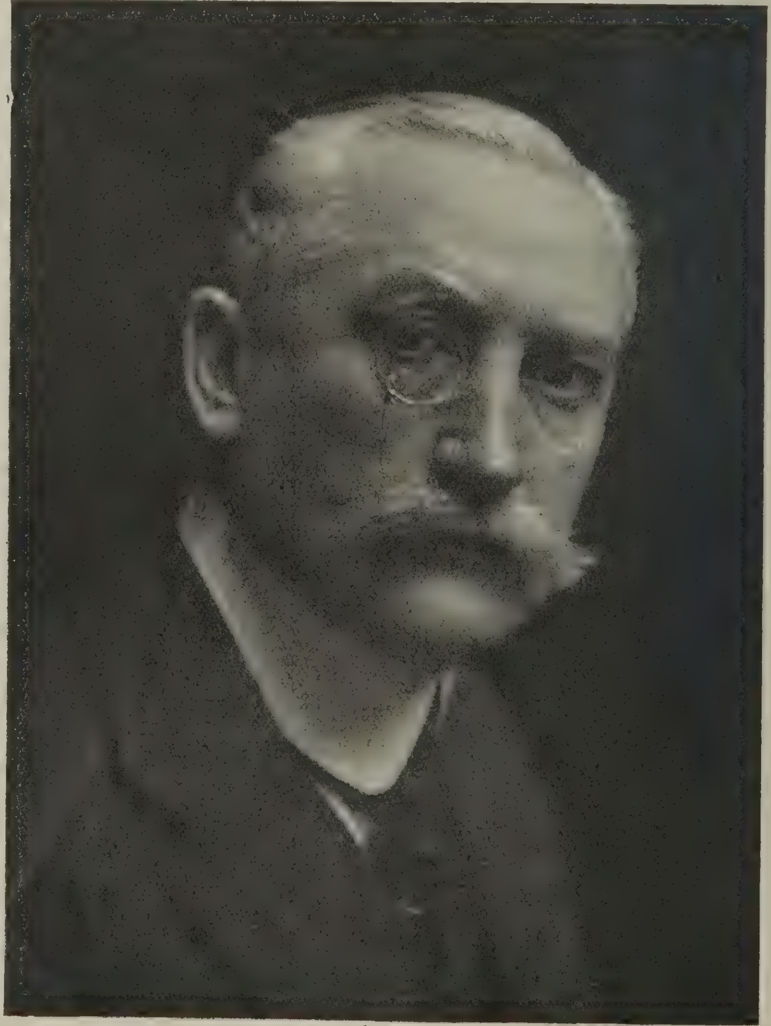
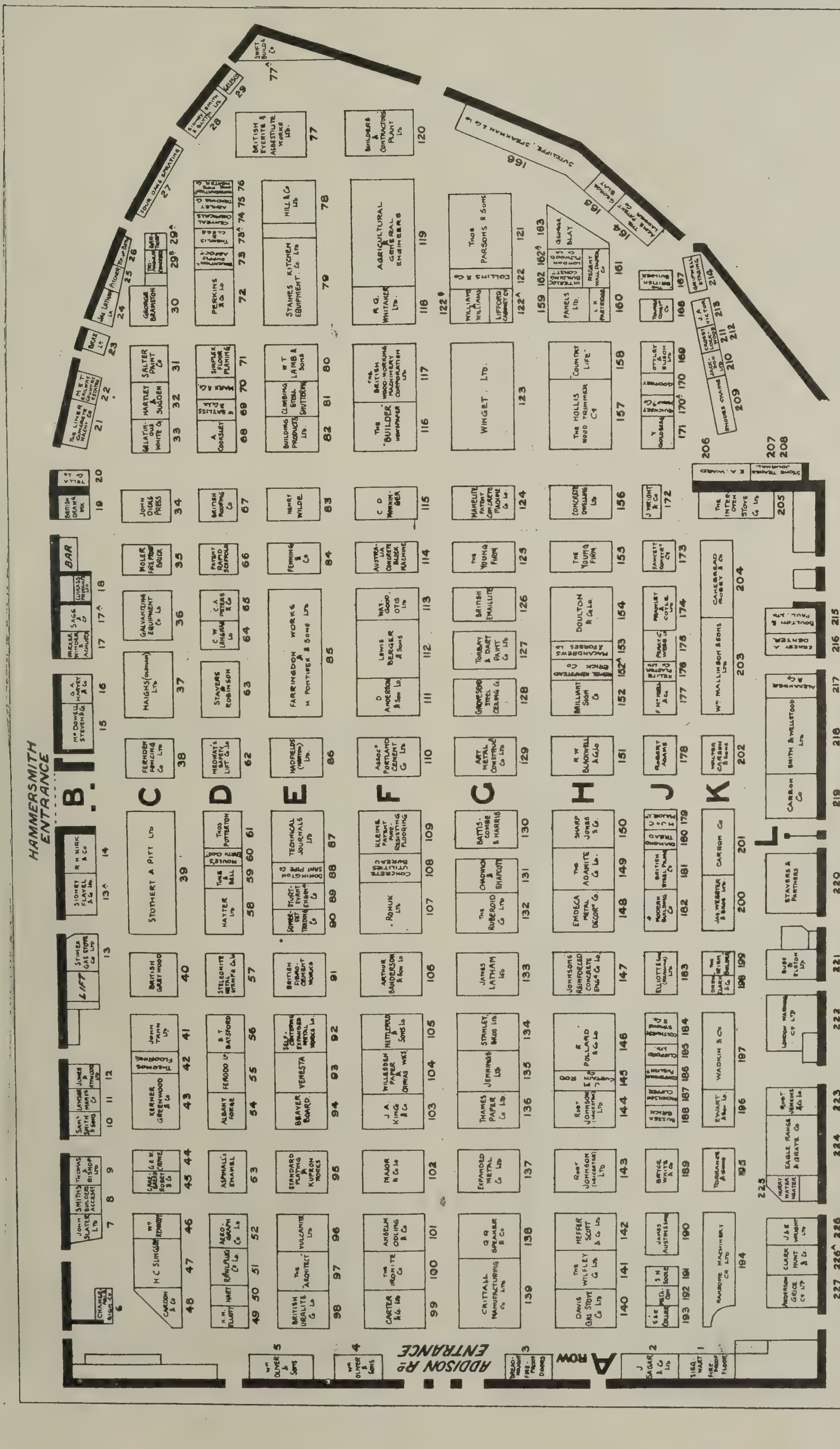


Photo: Histed & Co.

MR. JOHN W. SIMPSON, P.R.I.B.A.
(who opened the Building Exhibition yesterday.)



Reproduced by arrangement with the "Builder."

PLAN OF THE BUILDING TRADES EXHIBITION, OLYMPIA.

The Building Exhibition: Fixtures and Arrangements

THE Building Exhibition at Olympia was opened yesterday by Mr. John W. Simpson, President of the Royal Institute of British Architects, in the presence of a large and distinguished company. A vote of thanks to the President was proposed by Mr. A. J. Forsdike, President of the National Federation of Building Trades Employers of Great Britain and Ireland, supported by Sir Charles T. Ruthen, F.R.I.B.A., President of the Society of Architects, and seconded by Sir Henry Maybury, K.C.M.G., C.B., Director-General of Roads, and supported by Mr. E. Fiander Etchells, A.M. Inst.C.E., Hon. A.R.I.B.A., L.C.C., President of the Concrete Institute.

This week and next we are publishing specially enlarged numbers of the Journal, which will be on sale, together with our other publications, at our own stand, Row E. No. 87. In our next issue we shall include a number of specially contributed articles on particular aspects of the exhibition, reports of meetings held during its progress by the various architectural and building societies and institutions, together with photographs of the more attractive stands. Other features will take the form of commentary and interviews.

During the run of the exhibition performances will be given daily from 3 p.m. to 8 p.m. by the Royal Artillery String Band.

The Architects' Welcome Club

An important feature of the exhibition is "The Architects' Welcome Club," which has been organised by the R.I.B.A., the Society of Architects, and the Architectural Association, for the benefit of architects and their friends. The organisation of this club promises to be of great practical use to architects, particularly those from the provinces, who attend this long-established annual exhibition for the purpose of studying the latest developments in building methods and materials.

But it also aims at interesting the general public in the work of the architect. The reception on April 16, given by the Presidents and Councils of the managing bodies, will be attended by a large gathering of architects from all over the country and by many laymen interested in the art of architecture and the science of building. At the public dinner on April 22 a large number of distinguished guests, including members of the Government, will be entertained by the club.

The public lectures, the exhibition of architectural drawings, and the cinematograph exhibitions should be instrumental in bringing together many members of the general public in addition to those who are professionally interested.

The Prince's Rooms at Olympia are equipped as the Architects' Welcome Club. The accommodation includes two clubrooms, where newspapers and technical journals are available for reference, and light refreshments are obtainable at tariff charges. There is also a Presidents' room, and an enquiry office where an official representative of the club is in attendance daily.

The following arrangements have been made:

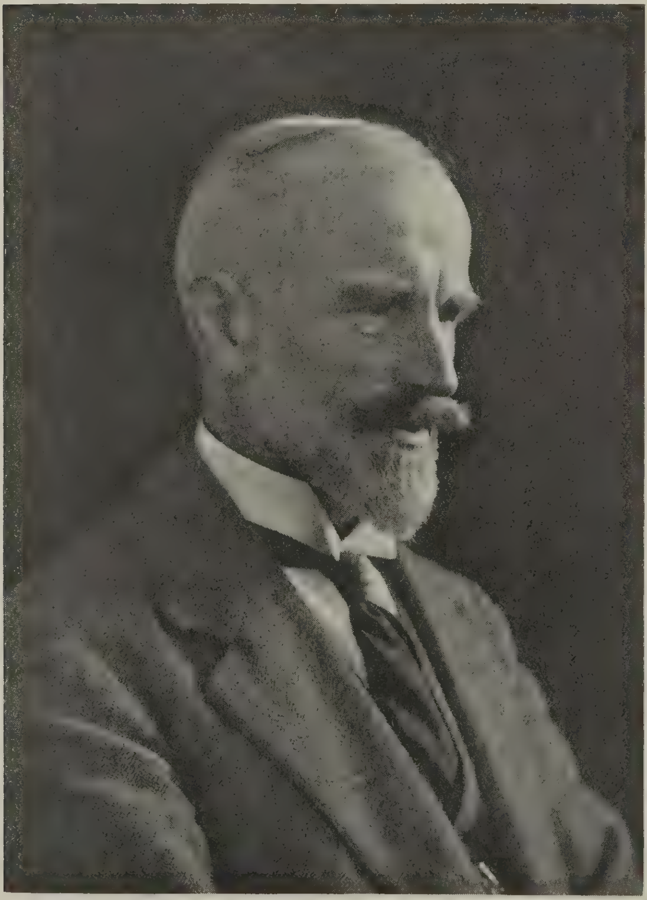
Friday, April 15, at 6 p.m.: "The Effect of Building Materials on Architecture," by Professor Beresford Pite, F.R.I.B.A. Admission free.

Saturday, April 16, at 3 p.m., reception in the Pillar Hall by the President and Councils of the R.I.B.A., the Society of Architects, and the Architectural Association to architects and other guests.

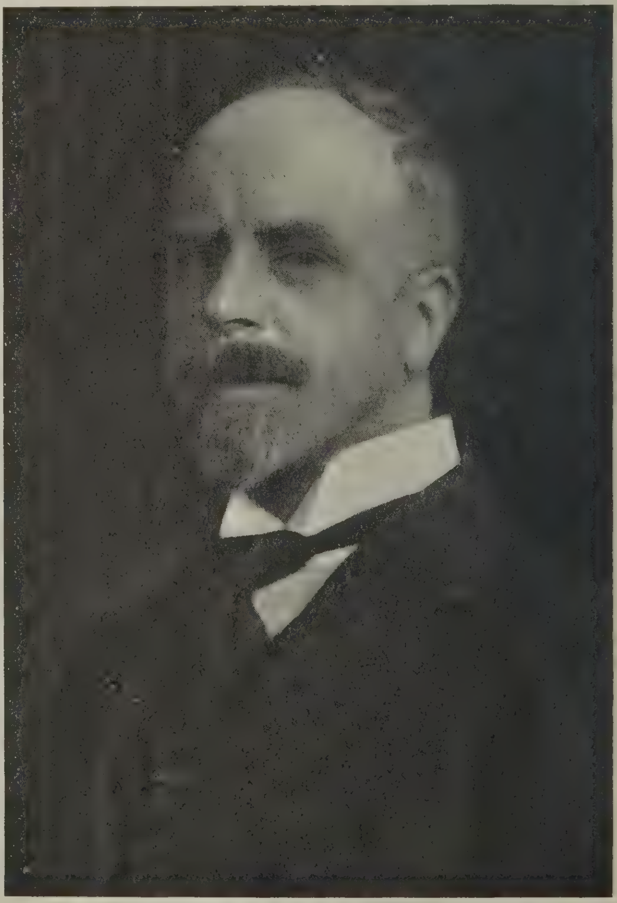
Tuesday, April 19, at 6 p.m., "Our Towns and Villages and How We Spoil Them," by Raymond Unwin, F.R.I.B.A. Admission free.

The lectures mentioned above have been arranged for members of the public exhibiting at or visiting the exhibition, to interest them in architecture generally, and it is hoped that architects will do their best to make the lectures known.

Friday, April 22, at 6.30 p.m. for 7 p.m., public dinner in the Pillar Hall, when representatives of the Royal Institute of British Architects, the Society of Architects, and the Architectural Association, kindred professions, public bodies, the building industry, Government Departments, and foreign architects will be the guests of the club. Tickets, price 12s. 6d., not including wine, may be obtained from any of the organising secretaries, and,



Mr. H. Greville Montgomery.



Mr. Hugh C. Montgomery.

ORGANISERS OF THE GREAT BUILDING EXHIBITION AT OLYMPIA.

during the exhibition, at the club, by architects and their friends, including ladies, exhibitors, and any others who may desire to attend.

Cinematograph Films

There is an exhibition of cinematograph films, open to the public, illustrating various building processes and manufacture, every evening at 7.45, in the Large Conference Hall. Admission is free.

Communications on any matters connected with this programme should be addressed to one of the organising secretaries, whose addresses are:

The Secretary, Royal Institute of British Architects, 9 Conduit Street, London, W.1. Telephone: Mayfair 434. Telegraphic address: Ribazo, London.

The Secretary, the Society of Architects, 28 Bedford Square, London, W.C.1. Telephone: Museum 942. Telegraphic address: Crypt, Westcent, London.

The Secretary, the Architectural Association, 34 and 35 Bedford Square, W.C.1. Telephone: Museum 4735.

Exhibition of Students' Work

An important and representative exhibition of architectural students' work is being held in the Large Conference Hall. All the leading schools in the country are represented and various prize drawings of the year are shown. The exhibition is open to the public generally.

Season Tickets

Complimentary season tickets of admission to the exhibition may be obtained from the secretaries above mentioned. Cards of invitation to, or tickets for, any of the social functions or lectures, will admit the holders to the exhibition on the day for which the invitation or ticket is issued.

The Concrete Institute

The following fixtures have been arranged by the Concrete Institute:

Wednesday, April 13.—Official visit to the exhibition, at 1.45 p.m. for 2 p.m. Members will assemble in the Welcome Club rooms; parties will be conducted to the various stalls of special interest, Mr. A. Alban H. Scott, P.V.-P.S.A., M.C.I., etc., having kindly undertaken to act as chief guide, and to provide others as necessary. At 4.30 p.m. Mr. H. Kempton Dyson, M.C.I., will give a paper in the Lecture Hall at Olympia on the subject of "Building in Concrete."

Tickets for the exhibition can be obtained on application to the secretary of the Concrete Institute, Denison House, 296 Vauxhall Bridge Road, S.W.1.

Tuesday, April 19.—A luncheon will be held at Olympia at 1.15 p.m. for 1.30 p.m., when the Council of the Institute will entertain the Right Hon. Christopher Addison, P.C., M.D., M.P., the Right Hon. Lord Riddell, Sir James Carmichael, K.B.E., J.P., F.I.O.B., and other guests.

After the luncheon, Mr. A. Alban H. Scott, M.C.I., M.R.San.Inst., Past Vice-President, Society of Architects, will deliver an address on "Science, Efficiency, and Progress versus Stereotyped Building Acts."

Early application for tickets (price 6s., exclusive of wines, etc.) should be made to the secretary. The application should be accompanied by the remittance of 6s., and a complimentary ticket giving admission to the exhibition will be forwarded with the luncheon ticket.

Other Meetings

Other arrangements during the course of the exhibition are as follows:

Thursday, April 14.
- 12 o'clock.—Institute of Clayworkers.—Annual meeting.
- 1 p.m.—Institute of Clayworkers.—Luncheon.
- 2 p.m.—Institution of Heating and Ventilating Engineers.
- 3 p.m.—"London in the Time of Henry VIII.," public lecture by Mr. H. A. Cox. Lantern views. Chairman, Sir Banister Fletcher, F.R.I.B.A.

Tuesday, April 19.
- 2.30 p.m.—Institution of Municipal Engineers.
- 4.30 p.m.—Marble Workers Employers' Association.

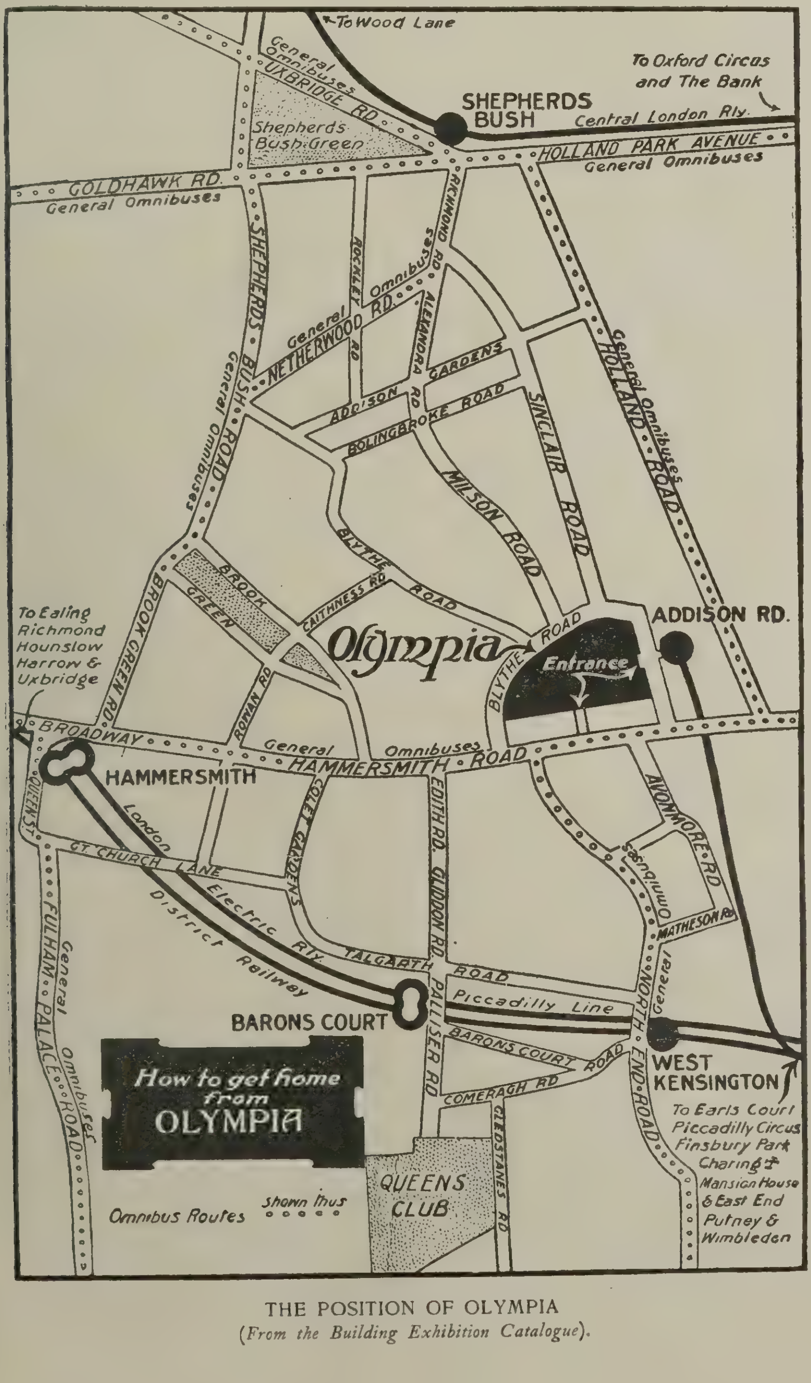
Wednesday, April 20.
- Royal Sanitary Institute.
- National Federation of Building Trades Employers of Great Britain and Ireland.

Thursday, April 21.
- 3 p.m.—Municipal Engineers' Conference.
- 11 a.m., 12.15 p.m., 2.30 p.m.—Institution of Quarry Managers.
- 11 am.—Lecture, "Industrial Efficiency in the Quarrying Industry," by H. N. Casson, Esq., editor of the "Efficiency Magazine." Chairman, Sir Henry P. Maybury, K.C.M.G., C.B.
- 12.15 p.m.—Lecture, "Industrial Accidents—a Levy on Capital and Wages," by A. Winter Gray, Esq., secretary, Safety First Association.
- 2.30 p.m.—Lecture, "Crushing and Sifting," by Professor J. W. Hinchley, A.R.S.M., Wh.Sc., F.I.C.

Friday, April 22.
- 3 p.m.—National Federation of Builders' Merchants Associations.

The exhibition closes on Tuesday April 26.

It will be seen from the foregoing that an excellent list of fixtures has been arranged. It is hoped that architects and builders will attend the meetings in large numbers and make them a success.



THE POSITION OF OLYMPIA
(From the Building Exhibition Catalogue).

Notes on Exhibits

Reinforced Concrete

THE EXPANDED METAL CO., LTD.,
Row G, Stand 137.

The exhibit consists of examples of slab work reinforced with Diamond Mesh expanded steel, brickwork reinforced with "Exmet," hollow and solid partition construction, expanded metal ceiling grounds, steelwork encasing, etc. The company also shows samples of its various products, and particularly a new production, viz., Rotary Diamond Mesh expanded steel, which can be supplied in coils up to 60 ft. and over in length, and up to 4 ft. 1½ in. in width. It is claimed to be an excellent reinforcement for concrete in roads, foundations, floors, roofs, and the like.

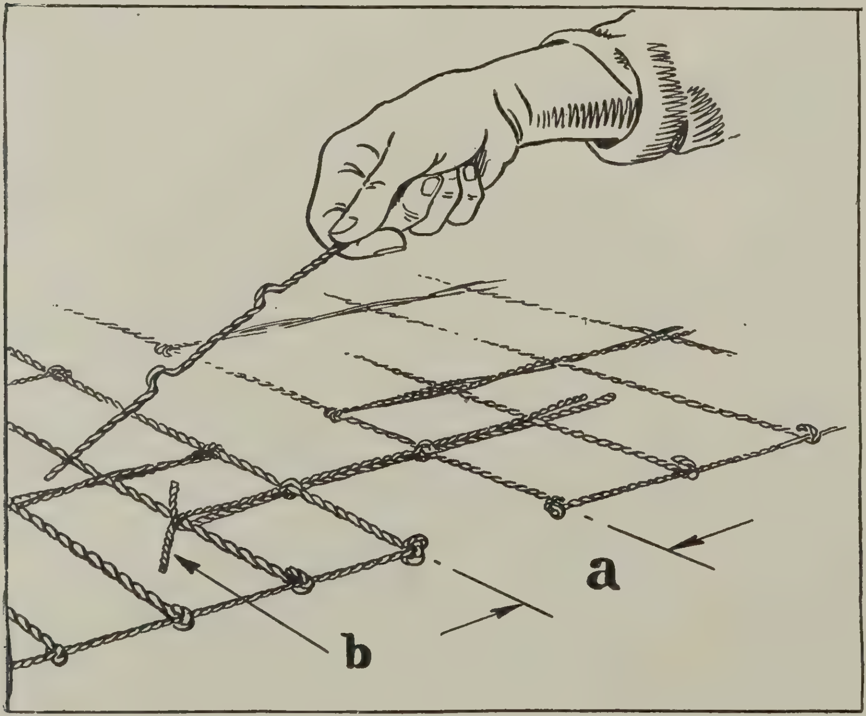
Address: Head Office and Construction Department, York Mansion, Petty France, Westminster, London, S.W.1. Works: West Hartlepool.

BROWN AND TAWSE, LTD.,
Bay 21, Gallery

The B. and T. Super Reinforcement is constructed on an entirely new system, for which conspicuous advantages of economy and efficiency are claimed by the makers. Manufactured from mild steel wire, cold twisted in order to eliminate the first stretch in the steel, the wires when twisted form a continuous mechanical bend for the concrete, thereby assisting to distribute the tension over a larger area. There are no projecting wires to tear the hands or clothes of workmen, and no welded wires liable to alter the structure of the metal.

Owing to the spiral formation all wires are self-locking, and have no corrugations which might set up secondary stresses in the concrete. Owing to a system of jointing wires that can be carried out by unskilled labour there is no waste of material due to overlapping, and the flat sheets of reinforcement can be joined up without affecting the lines of tensional resistance. This method, the makers assert, saves 8 per cent. of reinforcement. Arrangements can be made whereby the reinforcement can be manufactured at or near the site where the material has to be laid, thus adding to the practical utility and economy of the system.

Address: 3 London Wall Buildings, London, E.C.2. Telephones: London Wall 6240.



B. AND T. SUPER REINFORCEMENT.

JOHNSON'S REINFORCED CONCRETE ENGINEERING CO., LTD.,
Row H, Stand 147.

The display of photographs to be seen on this stand gives an interesting summary of the extensive works in reinforced concrete that have been carried out by this firm, and the exhibit comprises their well-known specialities of reinforcements. The Lattice steel wire reinforcement has been used for many years in concrete floors, roofs, walls, tanks, etc., and the Keedon fitments for reinforced beams and columns have been proved to be efficient and economical. These have the distinct advantage of combining rigid and yet adjustable members with a non-slipping bar. Bricktor, a reinforcement for all kinds of brickwork, partition slabs, and concrete block work, is also shown.

Address: Lever Street, Manchester. Telephone: Central 1120.

Patent Building Materials

BRITISH FIBROCEMENT WORKS, LTD.,
Row E, Stand 91.

The stand has been especially designed to illustrate the many various "Fibrent" asbestos cement manufactures, now used in all classes of building work.

The south side of the roof is covered with "Fibrent" corrugated sheeting. A semi-circular gable has been introduced in the centre of this side to illustrate "Fibrent" curved corrugated sheeting, which can be curved to any required radius. The north side is covered with "Fibrent" red slating of the diagonal pattern. These slates are also made in grey, blue-black, and purple.

The external treatment of walls and ceilings shows the use alternatively of "Fibrent" flat and corrugated sheets, and the use of flat sheets treated with roughcast and pebbledash; and the small gable on the north side has been covered with "Fibrent" scalloped slates. The interior shows the use of flat sheeting and the several finishing methods that may be adopted.

"Fibrent" flat sheets ½ in. thick are used on the floor fixed direct to joists, which further illustrates the many uses of "Fibrent" products in modern construction.

The makers claim for "Fibrent" asbestos cement material that it is fire-resisting to the highest degree and permanent. The material, they say, improves and hardens with age and exposure, and does not crumble, rust, or require to be painted for preservation.

Address: Erith, Kent.

BRITISH ROOFING CO.,
Row D, Stand 67.

Alligator asbetic slates, walls, and ceiling sheets are exhibited on this stand, and can be seen in grey, blue, and red colourings. The tiles are sent out ready cut and holed according to the style of roofing required, and can be nailed on wooden battens or boards, or fixed direct to steel angle irons. The asbetic wall and ceiling sheets are supplied in standard sizes, and various methods of using these for walls and partitions are shown; also the decorative panelled effects obtainable by their use. A small roof of Alligator asbetic corrugated sheets is exhibited, and attention is drawn to its value for factory construction. A variety of bitumen roofings, damp-courses, etc., complete the exhibit.

Address: Premier House, 150 Southampton Row, W.C.1.

THAMES PAPER CO., LTD.,
Row C, Stand 136.

At this stand can be seen a series of model rooms lined throughout with the company's well-known "S.X." board, and completely decorated and finished. The exhibit is a striking illustration of the application of this substitute for lath and plaster, and not only shows the numerous methods of panelling which can be adopted with this material, but the various finishes it is capable of taking.

Address: Purfleet, Essex.

MACANDREWS AND FORBES, LTD.,
Row H, Stand 153.

This stand affords an effective demonstration of the numerous possibilities of Fiberlic, the valuable and well-known substitute for lath and plaster. Manufactured from long, tough, fibrous roots, chemically treated, the board is built up in layers with a fire-resisting cement, and can be painted, stained, or enamelled. Fiberlic is easily applied to walls and ceilings, and, combined with wooden fillets or mouldings, an attractive interior can be obtained at very moderate cost. The makers lay stress on its fire and damp-resisting qualities, and point out that, besides being non-conducting and a sound-deadener, it is also sanitary and vermin-proof. Fiberlic has the approval of the Ministry of Health for use on State-aided housing schemes or subsidised houses.

Address: 65 South Molton Street, W.1.

F. McNEILL AND CO., LTD.,
Row J, Stand 177.

This firm, established in 1833, and the original patentees of asphaltic roofing felt, shows a large variety of their "Lion" brand roofing and roof-lining felts.

"Lion" roofing—rolls 24 yards by 1 yard—which has been used in immense quantities both at home and abroad for factories, works, aircraft buildings, hutments, hospitals, etc., is made in various thicknesses and is suitable for all climates. The models illustrating the most economical and efficient method of using these roofings will interest architects, surveyors, builders, contractors, etc. Here one may inspect at close quarters sections and complete model buildings of various kinds. The makers draw particular attention to McNeill's "Combinite" system of roofing for flat or sloping roofs. Many large factories and mills have adopted this system, and the models shown clearly demonstrate a few of its many advantages at a glance.

For cold storage insulation and thermal insulation generally McNeill's perfected patent slagwool, now sold under the registered name "Slagbestos," is largely used both ashore and afloat in the largest and most modern cold stores and steamers. Models are shown which illustrate its fireproof and sound-proof qualities in a very striking and convincing manner. One of the most interesting of these is a box lined with "Slagbestos," containing an electric bell. On covering with a pad of "Slagbestos" (sandwiched between wire netting), the sound is snuffed out. The fireproof qualities are shown by a pile of "Slagbestos." An excavation in the pile is made and a Bunsen burner inserted, showing the flame in direct contact with the "Slagbestos" without damaging it.

Address: Spencer House, 4 South Place, E.C.2.

THE RUBEROID COMPANY, LTD.,
Row G, Stand 132.

Ruberoid roofing for flat, pitched, or curved roofs. During the past twenty-nine years Ruberoid has been extensively employed for the roofing of all kinds of buildings, including large public buildings, and factory, dock, engineering, railway, and commercial buildings of all types. Its advantages and reliability for the covering of flat roofs have been appreciated by architects and engineers throughout the world, and its use has consequently increased annually.

The makers claim that Ruberoid is proof against time, weather, water, acids, and alkalies; it is unaffected by heat or cold, and will not melt or run.

Models show the method of application to roofs of various types, and provide examples of flashings, gutters, etc. Ruberoid dampcourse for foundations fills all the requirements of a permanent dampcourse, and is extensively employed on large building estates and for housing schemes throughout the country.

Pluvex pure bitumen dampcourse is manufactured in two qualities, and special care has been taken to produce a material unaffected by high temperature. It complies with the Ministry of Health's specification. Ruberoid flooring is largely employed for the covering of wood and concrete floors of laboratories, office buildings, workshops, etc., where an acid-proof, waterproof, and damp-proof flooring of durable character is required. It is laid in the same manner as linoleum, and is particularly suitable for the covering of concrete and stone floors to prevent rising dampness. Ruberoid sarking felt, Pluvex roofing felt, Starex roofing felt, and P. and B. insulating papers are also shown.

P. and B. preservative paints are extensively used for preserving submerged or subterranean wood or metal work; also for all metal work exposed to the weather.

Address: 81-83 Knightrider Street, Queen Victoria Street, E.C.4.

VULCANITE, LTD.,
Row E, Stand 96.

This firm's exhibit consists of an interesting series of models showing the application of patent Vulcanite roofing for flat roofs. A further model shows the use of their "Reliance" brand of lead and bitumen damp-course, and original rolls of the different Vulcanite sheetings manufactured by the firm are also exhibited. These are designed for various purposes, including roofing, damp-coursing, and sarking. Other water-proofing specialities may also be seen.

Address: Blackfriars House, New Bridge Street, E.C.4.

MODERN BUILDING COMPANY, LTD.,
Row J, Stand 182.

This company's exhibit takes the form of a picturesque garden chalet, built of "Doric" patent weatherproof rough-cast building sheets, the principal speciality of the company. These patent building sheets created a good deal of interest at last year's exhibition, and will probably attract a still wider circle of the trade this year, as their utility and efficiency are becoming more widely appreciated under the present difficulties of building. "Doric" patent building sheets are composed of the well-known asbestos cement with a weatherproof bituminous coating, and are reinforced with netting, the exterior face of the sheets being finished with washed pebble rough-cast. The advantages of these sheets are obvious, as they enable the builder to erect rapidly timber-framed walls which are, the makers claim, absolutely damp-proof and permanent, and which, in addition, impart to the building the appearance of a half-timbered and solid brick building with a rough-cast finish.

The company are also demonstrating by model sections their "Doric" patent system of concrete construction as being employed for the welfare centre of Messrs. Thornycroft Engineering Works at Woolston, Southampton. This system should prove interesting not only to housing committees and professional men, but to all sections of the trade, on account of its simplicity and economy. Another useful speciality shown is the "Doric" patent roofing tiles.

Address: Central Chambers, North Street Quadrant, Brighton.

WILLESDEN PAPER AND CANVAS WORKS, LTD.,
Row F, Stand 104.

On this stand is demonstrated the principal uses of Willesden paper as underlining and underslating. On one end of the stand is shown Willesden paper underlining on boards, on the other side is shown the Willesden paper underlining under slates or tiles. The one side shows the open rafters and the uses to which the paper is put to ensure absolute weatherproof and waterproof results. It will be seen that even if a slate blows off, yet the roof is protected and water cannot get through. The use of the four-ply Willesden paper in the place of tin, sheet iron, or other substances, is also demonstrated. This, when painted, has a handsome appearance, and is guaranteed to last for very many years. A light green paper in two-ply and one-ply is shown, which can be used for panelling or for building purposes, or for stencilling. It is used as stencil plates. Well-known makes of Willesden canvas are shown in various qualities, also models of tents and tenting in the firm's standardised designs.

Address: Willesden Junction, N.W.10.

Floors

KLEINE PATENT FIRE-RESISTING SYNDICATE, LTD.,
Row F, Stand 109.

The Kleine stand shows a most interesting working model of the firm's method of construction. By this visitors are able to see the every stage of progress in the construction of the Kleine patent fire-resisting floors, which have now been known in the building trade for sixteen years. Made of reinforced hollow bricks, they are much lighter than concrete, and can be constructed very rapidly. Messrs. Kleine claim for these floors many advantages, and say that they dry quicker than concrete, are not hygroscopic, are warm under foot and quite sound proof. Ample proofs of their load-carrying capacities and fire resistance have been given, and they are employed in numerous important buildings, Vickers House, Waterloo Station, and the Research block of the Middlesex Hospital being prominent examples.

Address: 133-136 High Holborn, W.C.1.
Telephone: Museum 5328.

C. W. LANGMAN, LTD.,
Row D, Stand 64.

Composition flooring in several attractive varieties is shown on this stand. It may be seen in many colours and descriptions, and its makers claim for it valuable qualities of warmth and resilience. Vermin, water, and fire-proof, it is particularly suitable for shops, bathrooms, hospitals, and, in short, all buildings where a hard-wearing, jointless flooring is required.

Address: Shaftesbury Road, Forest Gate, E.7.

SIEGWART FIREPROOF FLOOR CO., LTD.,
Row A, Stand 1.

The hollow Siegwart floor, shown on this stand, has conspicuous advantages, chief among them perhaps being the fact that no timber is required for centering. A considerable saving both of time and money is thus effected, as the expense of material and labour is obviated, and the work can be carried out with greater rapidity. The floor consists of a series of granite concrete beams, each of which is reinforced with mild steel round bars. These are placed side by side and jointed with cement, forming a strong and fireproof surface.

Address: Thanet House, 231 Strand, London, W.C.2.

Joinery

BOULTON AND PAUL, LTD.,
Row L, Stand 215.

This exhibit consists of joinery (doors and windows) specially prepared for housing schemes. The firm is also showing mahogany and oak doors for better-class work. A portion of a standard wood-framed house, as approved by the Ministry of Health, is exhibited and shows the construction of this building.

Address: Norwich.

THE EDUCATIONAL SUPPLY ASSOCIATION, LTD.,
Row D, Stand 73.

The exhibit of the Educational Supply Association, Ltd., consists of an enclosure, the four sides of which show four adaptations of their patent "Esavian" folding and sliding screens, namely: Folding windows, folding partitions for inside use, folding doors for outside use, and folding shop front. The outstanding advantage of the "Esavian" patent is that a sliding upright is provided between each pair of leaves to which the purpose-made movements are fitted. This principle ensures the screens folding with a greater amount of ease and certainty than is possible by any other method. Another advantage is that the screen can be made to fold entirely to one side of the track. The efficacy of the system is demonstrated by the fact that many sliding and folding doors erected on this principle have been erected in connection with Government buildings.

Address: Stevenage House, 40-44 Holborn Viaduct, E.C.1.

VENESTA, LTD.,
Row E, Stand 93.

A special feature of this exhibit are the Venesta ornamental built-up panels in American figured oak, ash, black walnut, mahogany, teak, and satin walnut. These panels are put together with waterproof cement, and the thick face-plys constitute an integral part of the finished panel, giving it a superiority over ordinary veneered plywood.

The Venesta period panelling is also exhibited, and, made of oak plywood, forms an artistic and dignified wall covering for dining and billiard rooms, libraries, etc. This panelling is supplied framed up ready for fixing, all that is required being a sketch and measurements of the room to be panelled. The ordinary Venesta plywood, supplied in elder, birch, or pine, can be seen on the stand, and specimen panels treated with solignum, distemper, and enamel form one section of the exhibit.

Address: 1 Great Tower Street, E.C.3.

SAMUEL ELLIOTT AND SONS (READING), LTD.,
Row J, Stand 183.

The special work of the firm is here shown in various types of panelling, including their patent interlocking rail panelling, which is here shown fitted up on one wall of a small room with door and chimney-piece complete. The effect is exactly similar to the framed up panelling shown on the other wall, and costs about half as much. Other fine specimens of panelled work are shown, also some good veneered work. The mouldings arranged in panels on the walls are taken from the firm's new catalogue of authentic mouldings—each section being a reproduction of a moulding used in the various periods from the sixteenth to the end of the eighteenth century.

One corner of the stand is occupied by the firm's patent anti-cyclone convertible revolving door, two-compartment type, and introduces many new features in turnstile doors. These doors are a speciality of the firm's, and a great many have been erected in various parts of the country and abroad. The door exhibited is a very fine sample of workmanship and design. Parquet flooring is a special feature in conjunction with the other work, and few good samples are here shown. The firm also make a four-compartment door of the usual type, but with new collapsing features; an ingenious model of this is exhibited. Specimens of church work are shown from work in hand, and the floor is covered with interesting treatment showing various floorings.

Address: Reading.

Decorative Materials

PERCY C. WEBB, LTD.,
Row J, Stand 157.

This old-established firm is catering for the decorative and shopfitting side of the trade, as well as for monumentalists, and is showing a selection of coloured marbles in polished slabs. The slabs are exhibited so that the diverse colourings and veinings may be fully appreciated, and include Rosso Antico, the beautiful red marble which has come down to the present generation from classical times; Vert Rondino, quite a "Liberty" shade of green; Alberico, a yellow-fawn marble of popular taste; and Cipollino, which needs introduction. There are also some beautiful varieties of Onyx.

On the stand, too, visitors are able to inspect two less known but excellent stones, Bryscom and Carso blue; both of which hail from Somerset.

Bryscom is a material which can be used as a stone for moumental and building purposes, while its warm tone and brightly brecciated pattern indicate its possibilities as a decorative marble.

Address: St. Katharine Docks, London.

JAMES LATHAM, LTD.,
Row G, Stand 133.

Messrs. Latham exhibit at this stand many examples from stock of the highest grade mahogany—including Cuba and African varieties; wainscot oak from the Continent of Europe, Japan, and America, as well as fine specimens of home growth; American and French walnut, in planks, boards, and veneers; teak, American whitewood, pitch pine, cypress, silver pine, yellow pine, satin walnut, and a number of other prime woods for high-class building and shop-fitting purposes.

There is also a representative display of finely figured veneers of mahogany, grey wood, sycamore, brown and black oak. These are laid upon plywood to form panelling for rooms, ship's cabins, and railway carriage interiors. A cheap variety of veneered oak and walnut panelling suitable for the halls of cottages is included in this section. The exhibit is completed by a number of very fine logs sawn into boards and planks, and "stickled" to show the care taken by the company with hardwoods after they have passed through the sawmills.

Address: 124 Curtain Road, E.C.2.

Sanitary Equipment

THE FARRINGDON WORKS AND H. PONTIFEX AND SONS, LTD.,
Row E, Stand 85.

This stand is a general exhibit of porcelain enamelled iron and fireclay baths; marble, fireclay, and earthenware lavatories in ranges and single basins; wash-down, syphonic, and other forms of closets; and a good selection of hospital fittings. A "Masticon" covered roof is also shown, and there is an all-round exhibit of paints and colours. Two special attractions are the new patent "Masher" float, invented and patented, to do away with all the trouble which the usual copper float entails, and baths and lavatories fitted with valves other than the usual brass and nickel-plated which will require no cleaning whatever.

Address: Pontifex House, 43 and 44 Shoe Lane, E.C.4.

DOULTON AND CO., LTD., SANITARY ENGINEERS.
Row H, Stand 154.

Messrs. Doulton's exhibit consists of a representative selection of "Royal Doulton" high-class sanitary fittings contained in four specimen bathrooms, decorated in various styles. One has walls and floor lined with marble, others are decorated in black and silver, orange and blue, and cream and gold, a feature of the latter being the treatment of metal fittings with black oxydising process. This finish looks well against the white fittings, and, of course, does not require polishing, thus saving an immense amount of labour as well as a considerable item in polishing materials.

The four bathrooms referred to above occupy one-half of the stand. The other half is devoted to a general selection of fittings.

The Government housing pattern w.c., lavatory and sinks are to be seen, and two interesting items are the sink and lavatory basin supplied by Messrs. Doulton and Co., Ltd., in large quantities to the new King's College Hospital, Denmark Hill. A feature of these fittings is the overflow, which consists of an open vertical channel formed in the pottery outside the sink and lavatory.

A large range of sanitary fittings of all descriptions, for every purpose, including many items which for lack of space Messrs. Doulton and Co., Ltd., are unable to exhibit, can be inspected at their showrooms at Albert Embankment, London, S.E.1.

A large number of other fittings for use in the building trades are manufactured by the various branches of Messrs. Doulton and Co., Ltd., including terracotta, carrara ware, and Doulton ware for frontages, tiles, and mosaics, fireplaces, dampcourses, air bricks, chimney tops, and conduits, troughs, ducts, insulators, etc., for electrical work.

Address: Royal Doulton Potteries, Lambeth, S.E.1.

TUKE AND BELL, LTD.,
Row D, Stand 59.

This exhibit comprises a system of sewage purification suitable for dealing with the drainage from a country house estate. Such installations would consist of a ferro-concrete liquefaction tank, in sections, ready for fixing with self-contained baffle-plate, galvanised wrought iron inlet and outlet slides, removable for cleaning, and ferro-concrete cover in two pieces with lifting rings. The filter bed would be constructed in 9-in. brickwork in cement, on concrete base, and there would be humus settling chamber for the purified effluent, built in 9-in. brickwork in cement on concrete base, fitted with ferro-concrete baffle and weir plates and heavy cast-iron cover grating.

All this is demonstrated by the model Messrs. Tuke and Bell show at the exhibition.

Photographs and diagrams of revolving distributors for municipal work are exhibited, and also sewage ejectors, hydraulic lifts, and all types of sewerage ironwork and fittings.

They also show a working model of the Constable side-tipping trailer, largely used for road construction work by county surveyors, and particulars of the other sanitary and road maintenance vehicles manufactured by them at their works, Lichfield, Staffs.

Address: 27 Lincoln's Inn Fields, W.C.2.

Metal Equipment, etc.

ROBERT ADAMS,

Row J, Stand 178.

Robert Adams exhibit at this stand a variety of their Victor building specialities, and also a selection of the manufactures of Maison Picard, of Paris, who they represent. Victor specialities include several models of door springs and hinges for fixing in the floor and overhead, and are adapted either to public buildings or private residences. The "Crown Victor" double action spring hinge has excellent opening capacity and a perfect checking action, also special facilities for adjustment of closing speed and an automatic compensating action to prevent slackness from wear. The shallow types are specially suitable for shallow floors, the box being only 1¼ in. deep.

Various modifications of fanlight openers illustrate the durability of these fittings to all kinds of fanlights, and the types shown include systems operated by gear-box and by cord action. The "Pullman" sash balance provides a new method for balancing double-hung sashes, superseding weights, cords, and pulleys. With its economy in material and labour, this system is very suitable for housing schemes.

A new pattern panic bolt is shown, and the exhibit of weather bars is worthy of attention.

Messrs. Picard's exhibit comprises a variety of decorative fittings for doors and windows, representative of the best periods of French decorative art.

Address: 3 and 5 Emerald Street, Holborn.

CAKEBREAD, ROBEY AND CO., LTD.,

Row C, Stand 45, and Row K, Stand 204.

On this stand are exhibited wood chimney pieces of the latest design, interiors with brass and copper canopies and barless fires; and slabbed tile panels in Persian and plain enamels. Tile registers with boilers at back in self-contained flues are also shown, for use in dining-rooms where houses are constructed without a kitchen range, thus affording a constant supply of hot water. The exhibit includes combined cooking and sitting-room grates, and a good variety of mantel registers, with and without tiles, for bedrooms or sitting-rooms, and kitchen ranges, portable ranges, coppers for coal and for gas. Baths, lavatory basins, bathroom fittings, pedestal closet suites, and sanitary goods are shown, and there is a special display of builders' ironmongery, brass foundry, paints and enamels, varnishes, leaded lights, etc. Messrs. Cakebread, Robey and Co., Ltd., are specialists in housing schemes for State-aided or private enterprise, and can supply practically everything required for the building and repairing of houses.

Address: Caroba Works, Wood Green, N.22. Telephone: Palmers Green 635, 636, 691.

NETTLEFOLD AND SONS, LTD.,

Row F, Stand 105.

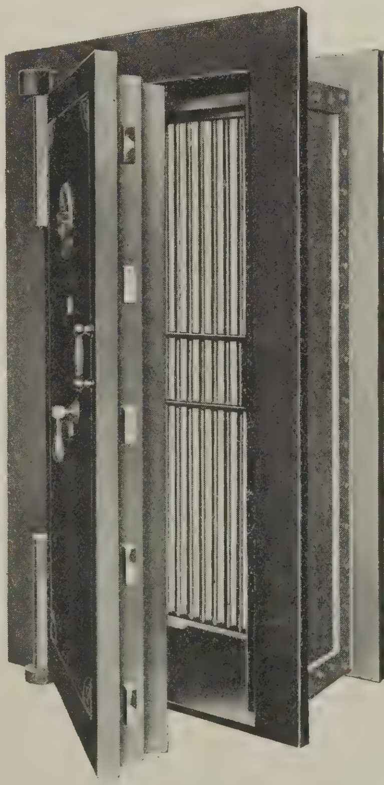
A very complete range of the latest patterns of high-class builders' ironmongery and brass-foundry is exhibited at this stand. The company is specially equipped to meet the individual requirements of architects, and in addition to furnishing standard designs, supplies exclusive patterns to their specification. Among the specialised types of door-fittings exhibited, particular attention may be drawn to the Bardsley springs, "Perfect" ball hinges, and "Guardian" locks, all of which, together with the butts, handles, and furniture here shown, are typical of the high finish which distinguishes the products of this company. The visitor will also find at this stand examples of well-designed fittings which have been supplied in large quantities for various housing schemes, and have been approved by the L.C.C. and other authorities.

Address: 54 High Holborn, W.C.1. Telephone: Holborn, 123 Pvte. Br. Exch.

JOHN TANN, LTD.,

Row C, Stand 41.

The exhibit at this stand comprises an interesting variety of fire and burglar-proof specialities manufactured by the firm. Illustrated herewith is one of the firm's standard bankers' doors, with grille and vestibule of the type supplied to many leading banks. The door is made of drill-proof unbreakable plate in every part, and is fitted with Tann's patent anti-explosive and anti-blowpipe devices, in addition to interlocking wedge-resisting bars.



STANDARD BANKERS' DOOR.

The "Anchor Reliance" twelve-corner bent steel "Household" and "Commercial" deed and book safes are also shown, as well as the "Dreadnought" and "Invulnerable" safes, constructed to resist fire, burglars, the drill, high explosives, and the oxo-acetylene blowpipe. An interesting exhibit is the actual safe shown at the great exhibition of 1851, the first of all trade exhibitions.

Address: 117 Newgate Street, E.C.1 (established 1795). Works: St. Stephen's Road, Old Ford, E.3.

HAYTER, LTD., MANUFACTURING ENGINEERS.

Row D, Stand 58.

The exhibit includes an interesting range of the firm's specialities, incorporating their well-known patent cam-lever. Special features are casement fittings and door bolts; a wide selection of stair rods in a variety of materials, both wood and metal, is also shown. All of these latter have the single screw cam-lever fitting, and shackles are exhibited with cam-lever bolt. A range of pressings and stampings manufactured by the firm complete an interesting exhibit.

Address: St. Dunstan's Works, St. Dunstan's Road, Hanwell, Middlesex. London Agents: Hayter, Mills and Co., 82 Victoria Street, Westminster, S.W.1.

Heating and Cooking Apparatus

CLARK, HUNT AND CO.,

Row K, Stand 226a.

A cheap and simple hot-water supply is obtained by the compact combination exhibited on this stand. An enlarged boiler rests upon the back of the hob of a portable range, the smoke flue passing obliquely through it. The hot water is drawn directly from the boiler, which forms a neat back covering to the range and has a hot-air chamber along the whole bottom length, giving a considerable and effective heating area. The non-pressure hot-water supply is also shown, whereby the ordinary open washing copper can be converted into a circulating boiler. This is effected simply by moving a lever, which, cutting off branch pipes and taps, causes the water in a tank fixed over the copper to be heated and forced up into the bath. The makers assert that with an eight-gallon copper and a twenty-gallon tank the whole can be heated in one hour, after which sufficient for a hot bath can be drawn every fifteen minutes.

Address: 159 and 160 Shoreditch, London, E.1.

THE DAVIS GAS STOVE CO., LTD.,

Row H, Stand 204.

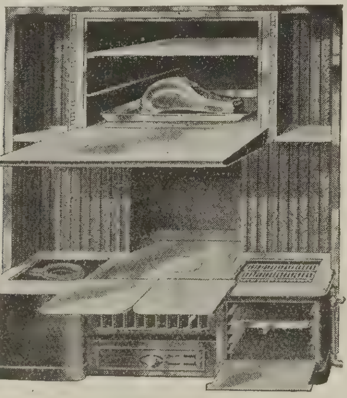
At this stand are exhibited the Nautilus patent cast-concrete gas flue blocks, designed to supersede 9 in. by 9 in. coal flues and chimney stacks in houses erected for the initial adoption of gas for heating and cooking; the "N.H." gas mantel register (cast-iron) for use in conjunction with the former, and provided with the Davis "Intense Flame Burner"; a selection of Davis gas cookers—of which the No. 93 (single-cased) and the "Tween" possess special advantages; the "Perfecta," "Shamrock," and "Thistle" types of Davis geysers; the "Midget" instantaneous water heater; the "Cambridge" water heater for use over a sink or lavatory; and two varieties of gas-heated wash boilers.

Address: 60 Oxford Street, W.1. Telephone: Museum 3050, 4808.

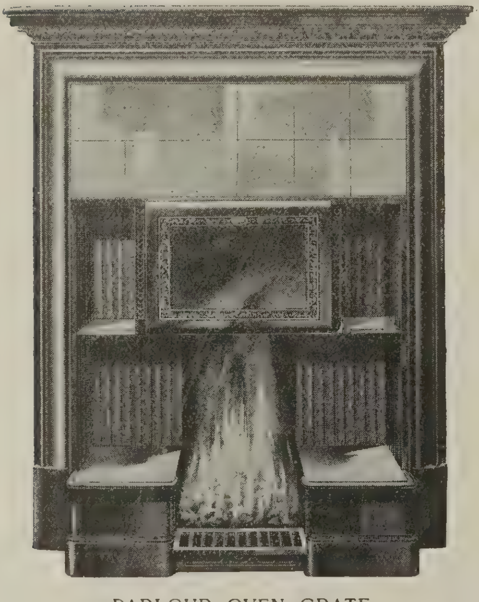
SIDNEY FLAVEL AND CO.,

Row B, Stand 13a.

The chief feature of this firm's exhibit is the new " Leamington " 1921 parlour-oven grate, a cunningly-devised combination of the barless open fire grate and cooking stove. For heating the living-room it appears as an attractive type of open fire, with hobs at each side and a bar frame that will act as a trivet or can be placed vertically to increase the depth of the fire box. The fire panel lies up against the flue back when not in use, and by pulling it forward and into position over the fire the whole is immediately converted into a very compact and efficient little cooking stove, with unusually good hob space of 2¾ sq. ft. A back boiler for domestic supply is fitted to each stove, and the makers draw attention to the sloped shape of it, which, running up the back flue the full width of the fire, forces all the heat to play upon it and ensures a really hot supply. On each side of the oven is a small but convenient shelf, and if desired the hobs at either side of the fire can be fitted with gas grillers or boiling burners, thus making it unnecessary to light a fire in the summer time, when only a limited amount of cooking is required.



PARLOUR OVEN.



PARLOUR OVEN GRATE.

The firm also shows a series of mantel registers for either coal or gas, and a variety of kitcheners and portable stoves. All of these come within the housing scheme schedule, and will be of particular interest to architects and builders engaged in housing work.

Address: Imperial Works, Leamington.

CARRON COMPANY,

Row L, Stand 219.

Carron manufactures have been selected for use in many State-aided housing schemes, and the quality of Carron goods is almost too well known to need description, but all who are interested in cooking and heating apparatus will be favourably impressed by their inspection of this stand. The Stenhouse grate, shown in operation, is one of its most prominent features, and affords an excellent example of the possibilities of the living-room grate. It has a cheerful open fire, with the addition of a hob fitted with boiling rings, and an oven at the back of the grate. A high-pressure back-boiler, guaranteed to provide a quick and ample supply of hot water, is an important feature, and the Stenhouse may be claimed to fulfil all that is required of a modern cooking range without loss of comfort or appearance in the sitting-room grate. Mantel registers, fireplace suites, ranges and gas-stoves are also exhibited, and there is a good selection of Carron electrical cooking and heating apparatus, including a complete electric fireplace.

Address: 15 Upper Thames Street, E.C.4.

INTERNATIONAL ONE-PIPE HEATER, LTD.,

Row D, Stand 76.

This economical method of central heating is a comparative novelty in England, and will attract the attention of all who desire to warm their houses without the heavy outlay which the installation of pipes and radiators entails. The heater is installed in basement or cellar, and a single grating in the floor above it completes the apparatus necessary for warming a house, cinema, or lecture hall. Heat is obtained by the complete circulation of warm air maintained throughout the building, and a marked economy in the use of fuel is effected.

Address: 36 Victoria Street, S.W.1.

SMITH AND WELLSTOOD, LTD.,

Row L, Stand 218.

This exhibit comprises a selection of the company's " Wellstood " and " Sovereign " ranges; several portable ranges expressly designed for housing schemes; two good examples of " Wellstood " interiors; and an important display of " Esse " anthracite stoves. The latter have settings to which regard for appearance has been successfully shown by the designer.

Address: Bonnybridge. London Showrooms: 11 Ludgate Circus, E.C.4.

THOMAS POTTERTON,

Row D, Stand 61.

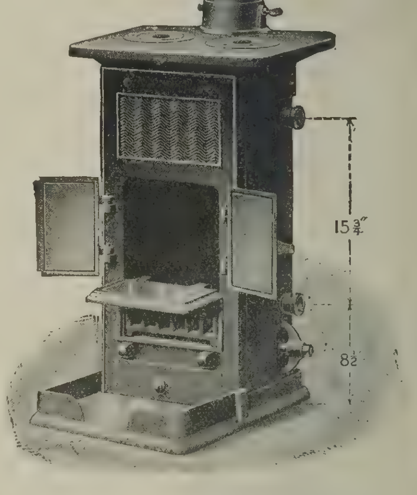
At this stand can be seen a working exhibit showing hot water radiators and domestic supply acting automatically by means of water and air-controlled thermostats; " Victor " gas boilers for (a) domestic hot water supply, (b) private houses by radiators in circulation, (c) warming garages and greenhouses, and (d) for bottle-washing machines and other trade purposes; water thermostats for the automatic regulation of gas consumption by the air temperature in warming rooms, hot closets, etc.; combined hot water supply apparatus, with gas boilers working in conjunction with kitchen-range boilers; coke-fired boilers for domestic hot water supply and heating apparatus; central heating plants with radiators for warming all kinds of buildings; and the " Therm-Minor " upright incandescent gas-burner for corridors, passages, etc.

Address: Cavendish Works, Ravenswood Road, Balham, S.W.12.

HARTLEY AND SUGDEN, LTD.,

Row C, Stand 32.

The company's principal exhibit this year is the new model of their vertical type " Heatanbake " combination, comprising a cast-iron fire boiler in sections and a large oven on the top. One of the chief features of this useful apparatus is the swinging trivet, upon which pans can be boiled during other cooking operations. The boiler is of such a capacity that central heating hot water supply, as well as cooking, are all done from one fire.



" BEACON " OPEN-FIRE BOILER.

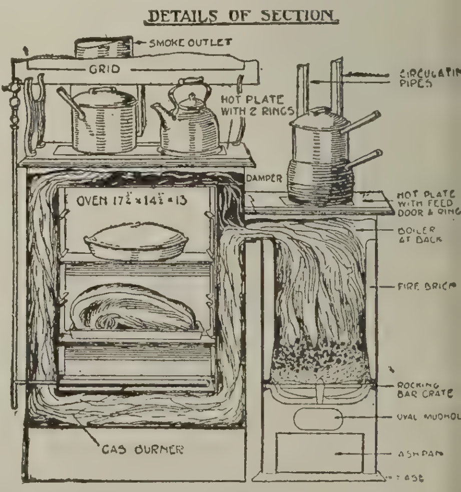
Other exhibits at this stand include the " Beacon " open-fire boiler for domestic hot water supply, the " Reliance " wrought steel sectional boiler for centrally heating public buildings, " White Rose " cast-iron sectional boilers, and " Saville " wrought iron domestic boilers for domestic hot water services.

Address: Atlas Works, Halifax. London Office: 61 Great Portland Street, W.1.

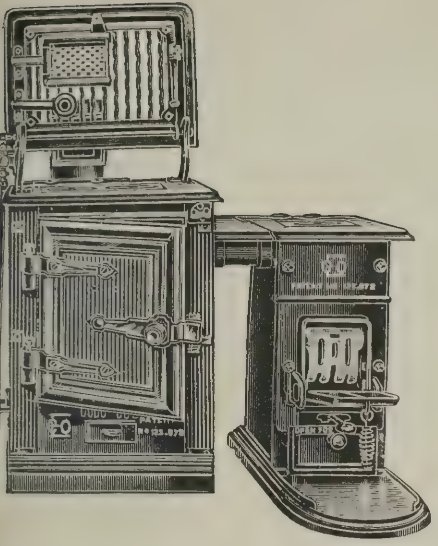
ROBERT JENKINS AND CO., LTD.,

Row L, Stand 223.

This stand will be found most instructive to those interested in domestic hot water boilers and hot water heating. Of the former, two types of independent



" ECO " BOILER AND COOKER: SECTION.



"ECO" BOILER AND COOKER: ELEVATION.

boilers are exhibited—viz., the "Kalor," and the "Don." Both of these are of welded mild steel, and the first-named is shown in operation. A good example of a combined boiler and cooker is the "Eco," which consists of a coke (or anthracite) fired boiler, connected by means of a flue to a gas or electric cooker. This apparatus also can be seen in operation. Messrs. Jenkins's display includes a variety of well-known arch and boot-type boilers for use with ordinary ranges, besides several of their copper and steel cylinders. An ingenious appliance, known as the "Alwazot" heat regulator, is attached to the boilers in use at this stand.

Address: Rotherham.

Paints and Varnishes

LEWIS BERGER AND SONS, LTD.,

Row F, Stand 112.

The main exhibit shows four rooms with walls decorated in an entirely new decorative material—Matroil, "the oil paint you thin with water." This gives a smooth, dead flat finish, which, being absolutely non-absorbent, is, the makers claim, really washable. The colour schemes are designed by the Berger decorative service studio, which prepares schemes for decorators free of charge. The white woodwork is finished in Enamelac, a beautiful and lastingly white enamel, and the grained woodwork is done with Scrumble transparent graining colours, finished with Berger varnish. Finished panels are shown of Pompeian paint, high gloss finish; M.P.P., master painter's semi-paste paint, adjustable by the painter to all surfaces, coats, and conditions; Arboreum wood preserving stain; and of Berger's strong stainers, showing self-colours and reductions under varnish. A special exhibit is also given of Tilo plastic roofing compound, made in red as well as black, for making watertight all kinds of roofs, stopping leaks, and for glazing purposes, instead of putty. Tilo can be painted over. Demonstrations of Berger materials will be given daily at the stand by practical painters, and visitors are invited to handle, brush out, and test for themselves. The makers emphasise the fact that the results shown on this stand are not what is commonly described as "Exhibition finish," but can be easily reproduced under ordinary conditions by any good decorator who uses the same materials.

Address: Homerton, London, E.9.

ASPINALL'S ENAMEL, LTD.,

Stand No. 53, Row D.

The firm shows samples of some of their specialities, such as glaze paint and aluminium paint for radiators, but in the main they rely on the decoration of the stand itself, all of which has been carried out at Olympia to justify their claim to be makers of high-class enamel paints and distempers, suitable for every requirement of the building and decorating trades.

They show work in both glossy and flat "Sanalene," and a portion of the stand, including the ceiling, has been done in "Wapicti" distemper, one of their most popular productions. This distemper is also on view at the stand of the Beaverboard Company. Aspinall's glaze paint is shown on brick, fibrous plaster, and cement, which paint the makers say is being largely used at the present time. By a simple treatment in two coats, applied with an ordinary paint brush, a finish resembling vitreous or enamel tiling is obtained. A surface treated with one of their two-colour schemes of decoration in this process can be hosed and washed down exactly as if faced with glazed tiles, and one treatment under ordinary conditions should remain good for years. The pavilion is constructed of eight columns, the centre portion being domed. The private offices, lobbies, and screens display the various enamels, paints, and distempers manufactured by the firm.

Address: Goodwood Road, New Cross, S.E.14.

Lifts

MEDWAY'S SAFETY LIFT CO., LTD.,

Row D, Stand 62.

A complete electric passenger lift in operation is shown on this stand. Operated by dual control, it can be worked automatically by means of push buttons or by a switch worked by an attendant. Special features are the improved type of controller and the tamper-proof locking gear to the landing gates.

A unique device operated by merely pressing a button is the patent electrically operated device for opening and closing lift doors and gates. This is practically noiseless in operation, and is therefore a great improvement on many existing devices.

Other features of the exhibit are an electric service lift, a hand-operated service lift, with self-sustaining gear, and an electrically-operated friction winch.

Address: 1 and 2 Bucklersbury, E.C.4.

WAYGOOD-OTIS, LTD.,

Row F, Stand 113.

The main exhibit of Messrs. Waygood-Otis is the full-size working passenger lift which travels from the ground floor of the hall to the gallery. This is capable of taking ten passengers at a speed of 175 ft. per minute. The winding machine is fixed at the side of the lift at the ground floor level, and a powerful electric brake is mounted on the coupling between the motor and the winding machine. As regards control, this can be operated from the inside by the attendant, or on the full automatic push-button system from the landing. There are numerous other up-to-date features in connection with the lift which will interest the discerning visitor.

At the stand itself the makers are showing samples of their electric machines in various sizes, from those applicable to small service lifts up to types which will take a ton load at a speed of 400 ft. per minute. Machines of the latter description are being supplied to Messrs. Selfridge and Messrs. Harrods.

Other exhibits shown include controlling apparatus suitable for operating lifts from alternating currents; a working model of an automatic push-button lift, illustrating safety interlocking arrangements to the landing gates; various hand-power lifts; and a number of fittings and accessories specially designed for electric or hydraulic lifts. These are mounted on a board for easy inspection.

Address: 54 and 55 Fetter Lane, E.C.4. Telephone: Holborn 2001.

Machinery

THE ANDERSON-GRICE CO., LTD.,

Row L, Stand 227.

This exhibit is of special interest to stone and marble workers, and illustrates a development of pre-war designs embodying several improvements, which have for their object the wider application of machine-cutting and moulding in substitution for hand labour. Primarily, this machine was intended for use with "Anderson" diamond saw blades, but everything is arranged so that solid carbo wheels or carbo-rimmed blades can be used.

While the machine is principally used for cutting and moulding stone, marble, and slate, it has facilities which make it equally convenient for slab or blockwork. Its capacity for cutting varies from blocks of stone or marble 8 ft. long by 1 ft. thick down to small tiles and slate slabs of dimensions suitable for electrical work—such as starters, fuse boxes, etc.

Address: Taymouth Engineering Works, Carnoustie, Scotland. London Office: Queen Anne's Chambers, Tothill Street, S.W.1.

W. BAYLISS AND CO., LTD., ENGINEERS,

Row D, Stand 69.

Continuous demonstrations are given on this stand of the latest type of the Bayliss block slab making machine. The great feature of this machine is, in the opinion of the makers, the heavy output obtainable by its use, ranging in some cases from 1,000 to 1,100 blocks in an eight hour day. This is due to the fact that the machine, which is a hand-power one, operates two running moulds alternatively, so that there is no loss of time in filling and taking away. Being an eccentric, the same turn of the flywheel presses and releases; there are no pedals or levers to operate. The aggregate is struck off level with the top of the mould boxes. By the use of the spring clutch the boxes are held firmly exactly under the presshead every time it is operated, and with these governing features no skilled labour is required. Any thickness of block can be made from 2 in. to 4½ in., size 18 in. by 9 in. It is not necessary to use cast-iron pallets, as the boxes are so arranged to take wood or asbestos pallets.

Address: 240 and 241 Dashwood House, New Broad Street, E.C.2. Telephone: London Wall 735.

BUILDERS' AND CONTRACTORS' PLANT, LTD.,

Row F, Stand 120; Gallery, Bay 21a.

An interesting collection of labour-saving devices may be seen on this stand. On a timber tower, in the Annexe stand, clamped together with different types of the "Fircrete" timber clip, two patterns of the celebrated "Exe" hoist are seen at work, illustrating at once the facility and speed with which barrow loads of concrete, brick, etc., can be hoisted with this practical equipment.

Another part of the stand is devoted to the "Roll" concrete mixer. Two portable units are featured, each complete with power in the shape of a compact oil engine neatly stowed under frame on the back axle. The prominent features of the "Roll," strong construction, automatic loading and water supply, and whole batch discharge, resulting in very fast output, are easily appreciated by the working demonstration given. A concrete or sand tipping cart is the connecting link between the "Roll" mixer and the "Exe" hoist, the three together forming an effective concrete distribution plant to suit every kind of building job.

Address: 15 Victoria Street, S.W.1.

THE HOLLIS WOOD TRIMMER CO., Row H, Stand 157.

All the machines exhibited at this stand have been manufactured on the "Imperial" mass production principle, by which system standardised parts, special machines for rapid output, concentrated attention to the minutest detail, and highly organised administration, combine to produce the best and latest types of machinery at greatly reduced prices. These methods have long been applied to the manufacture of motor-cars and certain machine tools, but their adoption for wood-working machinery is quite new.

The machines now being produced under the mass production system include combined thicknessers and planes, over-hand planers, pattern makers' planes, circular saw benches, band saws, tenoning machines, bench planers, pendulum crosscut saws, as well as a number of similar machines. These are displayed in their entirety at this stand, and should be of special interest to contractors who turn out manufactured woodwork on a large scale.

Address: Imperial Works, Jockey Road, Wylde Green, Birmingham.

MILLAR'S TIMBER AND TRADING CO., LTD., Gallery, Bays 22, 23, 27, and 28.

At these stands will be found a number of examples of up-to-date machinery designed to reduce costs and expedite production. Conspicuous among these is a portable all-steel derrick—a crane in miniature—which can be erected and dismantled in a few minutes, and adapted for either hand or power operation. Two petrol-driven hoists are also shown, one of which is portable. Both are self-contained and can be quickly brought into operation.

Millar's well-known petrol-driven compressors are included in the company's comprehensive display, as well as a number of the firm's portable petrol-driven diaphragm pumps, and an example of the petrol engine and "Walking Beam" attachment for converting a hand diaphragm pump to power drive.

Of special interest to those engaged in carpentry or joinery will be the electrically driven mitre box and a petrol-driven woodworking machine.

Attention may also be drawn to several examples of Millar's concrete mixers, the larger models of which are fitted with power loaders; Millar's stone crushers, built with steel plate frames, and provided with reversible jaws; a Clark Tructractor, constructed with an end-dump body, in which the driver controls the travelling and dumping from his seat without dismounting; and two types of self-feeding power operated wagon loaders for handling coal, sand, or gravel.

Address: Pinners Hall, Middlesex.

STURTEVANT ENGINEERING CO., LTD., Row E, Stand 89.

This stand shows an exhibit of turbine vacuum cleaning plants suitable for use in all classes of buildings. These plants have been developed to such an extent that not only can carpets be cleaned with great rapidity, but the same applies to floors of various types, walls, etc. Such installations have been found to be invaluable additions to a modern building.

These plants are built in all sizes, from the large stationary plant, accommodating twenty or more operators, working simultaneously, down to the single-operator portable machine—this portable machine will do nearly ten times as much work as a small domestic vacuum cleaner. Various types of ventilating fans are also being exhibited.

Address: 147 Queen Victoria Street, E.C.4.

PERKIN AND CO., LTD., Row D, Stand No. 72.

An interesting exhibit of wood-working machinery is given on this stand, and two or three sizes of newly-designed ball-bearing saw benches will attract the notice of joiners and builders. They range from small machines taking 14 in. saw up to large sizes for heavy work.

A newly-designed roller feed ball-bearing saw bench is shown, together with a utility saw bench with travelling table for mitre and cross-cutting work, capable of use also for ripping work. The exhibit includes a horizontal boring and slot-mortising machine, capable of a great variety of work, and fitted with an instant square chisel attachment for boring and slotting square holes, and a disc and bobbin sand-papering machine of unique construction. A range of bench trimmers, combination chain and chisel power mortising machine, ball-bearing vertical spindle moulder, 4 in. and 9 in. bench type planers (recently placed on the market and having a large sale) for planing and light moulding, are also shown.

Address: Junction Works, Whitehall Road, Leeds.

J. A. VICTOR, Row K, Stand 213.

The "La Rivite" patent cutter block for wood-planing machines, including circular safety blocks with two, three, and four blade-holders, for over-hand and combined planers, circular safety blocks for vertical spindle moulders, four and six-knived cutter-blocks for thicknessers and four-sided planers.

All these cutter-blocks are used with extra thin blades and are fitted with the "La Rivite" patent knife-setting system, which allows the instantaneous and automatic setting of any number of planing knives on any cutter-block. There is also a display of wood-working machinery, and of French band saws and special circular moulding cutters.

Address: 31 Budge Row, E.C.4.

PARKER, WINDER, AND ACHURCH, Row B, Stand 17.

Several models of the Empire concrete mixer are shown on this stand, including types for hand or power, on wheels, skids, or stands. The makers say that this machine will make three cubic feet per batch of concrete in from one to three minutes. It pours direct into a mould, and mixes while pouring, thus performing work which, if done by hand, would take several labourers to accomplish. In connection with the Empire concrete mixer can be used the Australia block-making machine, which makes durable blocks, curbs, gateposts, and floor sites. Of the Excelsior screen, also exhibited, it is asserted that it never clogs, and therefore never needs forcible cleaning. It is built of strong steel blades, narrow in front and having a clear drop behind, and there is no time lost in freeing stuck pebbles, etc., when screening.

Address: Broad Street, Birmingham.

THE RANSOME MACHINERY CO. (1920), LTD. Row K, Stand 194, and Gallery Bay 26.

The exhibits include concrete mixers, concrete hoisting and placing equipment, hand tip-cart, steel sheet piling and piling winch. Particulars of the latest and best concrete block and slab making machines are also available, and a large number of interesting photographs shown in the office at Gallery Stand No. 26.

A new special light-weight Ransome concrete mixer is also exhibited, batch capacity of about 8 cubic ft., and the smallest size of the Ransome tar-macadam making machine can also be seen. This has a batch capacity of 6 cubic ft., and the makers say that its approximate output per hour is 4 tons. The Ransome standard concrete mixer, fitted with elevator and road wheels, which has a batch capacity of $7\frac{1}{2}$ cubic ft., is shown in position to feed a self-tipping concrete hoist bucket in a steel sectional tower fitted with head wheels and wire rope, hoisting winch, receiving hopper, and distributing chute.

Address: 14-16 Grosvenor Gardens, London, S.W.1. Telephone: Victoria 8060.

SUTCLIFFE, SPEAKMAN AND CO., LTD., Row H, Stand 166.

This company's exhibit includes representative types of presses for making bricks and briquettes, as well as machines for moulding pottery. These machines are in actual operation, thus affording the best possible means of showing how they work and what can be done with them.

Attention is particularly drawn to the "Emperor" brick and briquette-making press, which is specially adapted for the making of lime-sand and concrete bricks from clays adaptable for the semi-dry process. It can also be utilised for the briquetting of mineral ores, flue-dust, coal and coke, and similar materials. As will be seen, the horizontal rotating table contains from eight to twelve moulds, and while this is rotated one mould is filled, another is under pressure, and a third is under the discharging ram. The feeding is automatic, and the quantity of material fed to the moulds is regulated by a hand-wheel, which also controls the pressure.

Another interesting machine, also in motion, is the company's No. 2 Standard pottery moulding machine, which manufactures any class of pottery ware that can be ejected from a mould. It will turn out pottery ware up to 12 in. inside diameter by 12 in. inside depth, and any intermediate size down to 5 in. This machine is extensively used for making crucibles, insulators, turpentine cups, sleeves, nozzles, and runner bricks, as well as for the rapid production of all kinds of plain pottery.

Address: Leigh, Lancashire.

"WINGET," LTD.,
Row G, Stand 123.

The latest novelty from the "Winget" works is a cheap, handy machine called the "Westminster," which makes blocks, slabs, and bricks. The "Westminster" brings concrete construction within the reach of the smallest builder or estate owner, and can be operated by one man. Slightly smaller than the "Winget" roofing-tile machine, it is fitted on a braced, cast-iron stand, and, with the combined outfit, will manufacture any of the following: Single blocks 18 in. by 9 in. by 4½ in.; single slabs of the same dimensions, 2 in., 2½ in., or 3 in. thick; half blocks 9 in. by 9 in. by 4½ in.; half slabs 9 in. by 9 in. by 2 in., 2½ in., or 3 in., made two at a time; or six standard size bricks at one operation—all on one pallet. It is also supplied, if desired, with accessories for manufacturing bricks only, or blocks and slabs. The pallet employed in each case is exactly the same as that used in connection with the well-known "Winget" pressure machine, which with the standard 32-in. block-making machine, together with "Winget's" other plant, is seen in operation on this firm's stand.

THE "WESTMINSTER" BLOCK SLAB AND BRICK MACHINE.

The "Winget" Works at Warwick are solely devoted to the manufacture of concrete machines, and have been equipped with improved plant, which, together with mass production and modern organisation, enables the firm to provide for every class of builder and contractor at very moderate prices. Numerous types of concrete block and slab making machines are produced, and the firm's manufactures also include the latest labour-saving devices in the form of wagon loaders, elevators, and crushers.

Address: Winget House, 24 Grosvenor Gardens, S.W.1. Telephones: Victoria 8334 and 8336.

HENRY WILDE,
Row E, Stand 83.

This firm specialises in power plants for the manufacture of concrete products, such as blocks, bricks, slabs, roofing tiles, fence posts, etc. Most of their machines can be worked by hand, when the output will be the same as that of any other hand machine, or by power, when the output is more than doubled. They were one of the first in this country to recognise that the future of concrete products depends on quality, and that uniformly fine quality is most surely obtained when the concrete is mixed by machinery, and the products tamped by power and "cured," or hardened, under steam. By this method nothing is left to guesswork or chance.

One of the special features of the stand is the power tamper working over the "Multiform" block machine. Each tamper foot strikes seventy blows per minute, and each blow comes down with a weight of 700 lbs. This naturally ensures a perfectly consolidated concrete, which is of the greatest density and hardness. They sell this tamper to fit the "Multiform" or any other standard block, brick, or slab machine, whether of the "face-down," "face-up," or "side-face" type. The "Multiform" block machine is a combined "face-down" and "side-face" machine, and is demonstrated as such. The "Rapid" combined slab and brick machine, the "Handy" brick machine, and the "Favourite" tile machine are shown. Also a press for mosaic floor tiles, an agricultural pipe machine, and various others. All these are shown as hand machines. The firm also specialises in mixers both for hand and for power. The "Best" power mixer is shown at work, mixing the concrete used for demonstrating the machines.

Address: 66 Victoria Street, Westminster, S.W.1. Telephone: Victoria 2167.

Waterproofing

THE ADAMITE COMPANY, LTD.,
Row H, Stand 149.

Anti-Hydro, shown on this stand, is a liquid chemical compound with a calcium chloride base, which is neutralised with carbon compounds introduced through a special process. Two scientists in America spent nearly fifteen years in research work before they obtained the desired results. Anti-Hydro, which was placed on the market in 1904 in America, and introduced into England in 1919, is active only with Portland cement. It has no acid reaction and will always remain neutral to litmus, however long it is exposed to air. Anti-Hydro gauged reinforced concrete walls over ten years old in America are in perfect condition. Anti-Hydro does not accelerate the initial set of the cement, consequently the use of Anti-Hydro allows ordinary labour to properly spread and trowel a cement floor finish. The acceleration that Anti-Hydro gives the set of cement after the initial set makes for a great saving in labour cost, as it allows the men to trowel the finish earlier than they could trowel a finish mixed with plain water. With the addition of Anti-Hydro to the gauging water the ordinary 1:2:4 mix can be used and mixed in the ordinary manner by common labour, and sound, solid, impermeable concrete produced. Specifications for the use of Anti-Hydro limit only the amount of water used in mixing the concrete. Samples of Anti-Hydro are shown on the stand, and illustrations of installations in America and Great Britain in which Anti-Hydro has been used.

Address: Regent House, Regent Street, W.1.

CUIRASS PRODUCTS, LTD.,
Row B, Stand 18.

This firm has a very interesting stand wherein by means of running water over concrete, leaky felt, worn zinc, etc., on which their waterproofing material has been applied, its effects are clearly shown. Builders and those who have roofs to waterproof can here see how Cuirass, applied cold with a brush, is used at a cost of a few pence per yard. For tiles and vertical joints, where it is obvious a liquid will not hold, Cuirass Products have a compound "which sticks to the roof but not to the trowel." As a preservative for wood they have a preparation they claim to be very superior to creosote, and wood on the stand is treated with this preservative.

Address: 69 Victoria Street, S.W.1.

THE IRONITE CO., LTD., MANAGERS: S. THORNELY, MOTT, AND VINES, LTD.,
Row F, Stand 100.

Among the several exhibits shown at this stand are the two kinds of Ironite, viz., Ironite brand cement for flooring and Ironite brand cement for waterproofing. The former is especially manufactured for being mixed dry with cement, and is used for flooring and also for waterproofing walls, etc., in combination with Portland cement, in the form of an Ironite cement slurry or grouting.

"Aero-Blocks" (the Thames Building Supply and Engineering Co., Ltd.) are also represented at this stand by specimens of various shapes and sizes, a length of walling showing how they are applied, and a machine for manufacturing them.

Those whose business is concerned with haulage problems will be interested by an inspection here of the Watson bottom dumping wagons (S. Thornely, Mott, and Vines, Ltd.), by which the driver can discharge his load while the wagon is in motion.

The same company is showing, in addition to the above, one of their most recent types of concrete mixers. This possesses several advantages, and is constructed with the primary object of producing economical results.

Address: 11 Old Queen Street, Westminster, S.W.1.

KERNER-GREENWOOD AND CO., LTD.,
Row C, Stand No. 43.

The exhibits consist chiefly of apparatus and models which demonstrate the practical application of "Pudlo" brand cement waterproofing powder. It comprises an apparatus for testing the resistance of cement to permeation by water under pressure, similar to that used at the Kerner-Greenwood works for making the daily tests, and also a full-size section of solid concrete floor with 1 in. waterproofed cement topping. The lower edge of the concrete is immersed in water and the perfect dryness of the upper surface is proof of the power of a topping waterproofed with "Pudlo" brand powder to keep down rising dampness. The exhibit also includes a short length of stoneware drain-pipe charged with water. The joints are made with three parts of sand, one part of Portland cement, and "Pudlo" brand powder. A water-tank constructed of thin porous concrete blocks, to which a $\frac{1}{4}$-in. facing of cement, waterproofed with "Pudlo" brand powder, has been applied during the process of manufacture, is shown, together with concrete tanks, damp-courses, etc., and details of the application of cement waterproofed with "Pudlo" brand powder to the cure of flooded cellars, damp walls, etc., etc.

This firm is noted for the artistic merit of their advertisements, so that it was a happy thought to display some of the artists' original sketches. We noticed advertisements by the following artists: Chas. Shepperson, R.A., Stephen Reid, R.E., H. M. Brock, R.I., L. R. Squirrell, R.E., Oswald Cunningham, James Guthrie,, Mrs. Nesbit, as well as some remarkably clear "commercial" lettering. This section of their exhibit attracted a considerable number of architects and architectural students, who were evidently interested in the technique of the drawings.

Address: Anne's Place, King's Lynn.

ATLAS-WHITE PORTLAND CEMENT,
Row H, Stand 149.

Atlas-White Portland cement, shown on this stand, is a high quality non-staining cement, and gives a pure white finish for stucco bungalows, garages, and pergolas. It provides an effective background for shrubbery or evergreens, and is often used for making fountains and garden ornaments. It provides an excellent base for colour effects in stucco, and is employed for pointing and setting face brick, stone and tile. It is interesting to note that the Atlas-White Portland Cement Co., the manufacturers of Atlas-White, supplied over 7,500,000 barrels of Portland cement for use in connection with the Panama Canal.

Address: The Adamite Co., Ltd., Regent House, Regent Street, W.1.

Miscellaneous

BUILDING PRODUCTS, LTD.,
Row E, Stand 82.

The "Rigifix" bolt hanger sockets and slotted inserts are a prominent feature of this exhibit. These are intended to be embedded in ferro-concrete beams and columns for attaching mechanical equipment without cutting into finished concrete. Column guards for embedding-in the bases of columns as protection against corner-damage are also shown, together with specimens of various types and model beams equipped. The "Benquic" cold steel bar bender is an interesting exhibit. The waterproofing demonstration effectually shows the properties of the firm's various waterproofing products, including Bareau, Prufit, Prufitol, and Ferrolithic concrete hardener. Fillertex plastic crack and joint filler, and Fibrad, a fibrated bitumen damp-course, are additional exhibits.

Address: 6 Columbia House, 44-46 King's Road, Sloane Square, London, S.W.3. Telephone: Victoria 2590.

CENTRAL CHEMICALS, LTD.,
Row D, Stand 74.

Several proprietary glues manufactured under the registered trade mark "Certus" are exhibited at this stand. These are all cold glues, and are specially adapted as adhesives for various trade purposes. Certus glue requires no heating, and it is claimed to be water and heat proof. Practical examples of its tenacity to woodwork are displayed.

Among other products of the company shown at this stand are four varieties of glue which require to be heated before use. Of these, "Fortil" is a jelly glue which need only be warmed.

Address: 8-10 Little Suffolk Street, S.E.1.

TECHNICAL JOURNALS, LTD.,
Row E, Stand 87.

A variety of architectural and technical books and papers are exhibited on this stand. "The Art of E. A. Rickards," with an introduction by Arnold Bennett, is a recent publication that will interest all architects, and the 1921 edition of "Specification" may also be seen. Special building trade issues of THE ARCHITECTS' JOURNAL are on sale.

Address: 27-29 Tothill Street, S.W.1.

THE CEMENT MARKETING COMPANY, LTD.,
Row F, Stand 110.

The exhibit consists of samples of the company's well-known brands of Portland cement, cement at various stages of its manufacture, and samples of cement ground to various degrees of fineness. Neat sand briquettes of various ages for testing tensile strain are shown. Also cubes of various ages and mixtures for testing crushing strain, and aggregates of various descriptions, both suitable and unsuitable for mixing with Portland cement.

Practical tests are carried out on the stand, and a complete set of testing apparatus used in connection with the requirements of the revised British standard specification is employed.

Hydraulic crushing machine (for cubes of 50 sq. c.m. area) roading up to 50 tons, made at the A.P.C.M. engineering shops from their own designs, may be seen on the stand, and practical tests are carried out.

Samples of lime, whiting, superfine keene's and parian cements, specimens of sacks, casks, and drums complete the exhibit.

Address: 8 Lloyd's Avenue, E.C.3.

Coming Events

WEDNESDAY, APRIL 13.

Royal Society of Arts.—"Low Temperature Carbonisation and Smokeless Fuel." By Professor Henry E. Armstrong, Ph.D., LL.D., D.Sc.

THURSDAY, APRIL 14.

Concrete Institute.—Adjourned discussion on Mr. E. S. Andrews's paper on "Methods of Securing Impermeability in Concrete." 7.30 p.m.

SATURDAY, APRIL 16.

Concrete Institute.—Visit to new reinforced concrete premises being erected in Sumner Street, Southwark, for Associated Newspapers, Ltd. 3 p.m.

MONDAY, APRIL 18.

R.I.B.A.—"The Utility of Research on Building Materials." By Mr. Alan E. Munby, M.A. (Cantab), F.R.I.B.A.

TUESDAY, APRIL 19.

Annual Scottish National Housing and Town Planning Congress at the Council Chamber, City Chambers, Edinburgh (two days).

WEDNESDAY, APRIL 27.

The London Society.—Twelfth annual dinner at the Royal Adelaide Galleries, King William Street, Strand, W.C.2. 7.15 p.m.

News Items

Tiverton Housing.

Forty-three houses are to be erected by the T.C.

New Dunstan Parish Hall.

A proposal is afoot to erect a new parish hall in Dunstan, near Darlington.

Housing in East Preston.

The Ministry of Health have sanctioned a loan of £21,160 for housing.

An Edinburgh Architect's Will.

The late Mr. Robert Macfarlane Cameron, architect, Edinburgh, has left £8,841.

Rotherham Rural Housing.

Sixty thousand pounds is being borrowed by the R.D.C. from the Public Works Loan Commissioners for housing.

Scarborough Town-planning Scheme.

A town-planning scheme is in course of preparation. The borough (202 acres) is divided into three portions.

Housing at Chorley.

The T.C. have decided to apply to the Ministry of Health for sanction to borrow £7,900 for housing.

Alteration to London Premises.

Extensive alterations are being made to the new premises in Queen Victoria Street, London, of the Standard Life Assurance Company.

New Promenade for Hartlepool.

The corporation are applying to the Ministry of Health for sanction to a loan of £16,500 for protection works, which include a sea wall and promenade.

Ramsgate Improvements.

The Marina roadway, an important part of the sea front, has been acquired by the Corporation, who propose to spend £4,189 on improving it.

Walstanton Urban Housing.

The Housing and Town Planning Committee propose to purchase a housing site at Moreton House for £12,000. Sanction of the Ministry of Health has been received to a loan.

Bungalows for Ipswich.

A tender has been accepted by the T.C. for the erection of ten bungalows in brick and ten in concrete. Four hundred and twenty-four houses are already built or building.

Birmingham Housing.

Six hundred and thirty-nine houses have been completed, 1,662 have been commenced. The contracts in hand number 2,422. The Housing Committee propose to develop three more estates at a cost of £700,000.

Housing, etc., at Barnstaple.

Twelve houses are being erected on the Newport site. The Ministry of Health have sanctioned a loan of £4,500 for an outfall sewer at Sticklepath. The T.C. have decided to engage a whole time sanitary inspector at a salary of £200, rising to £250. Preference will be given to ex-Service men.

Change of Address.

Messrs. Christiani and Nielsen, reinforced concrete specialists, are moving to larger and more convenient offices at 72-74 Victoria Street, S.W.1, to which address all communications should be forwarded. The firm's telephone numbers remain unchanged, viz., Victoria 3565 and Victoria 7994.

Wednesday, April 20, 1921 Volume LIII. No. 1372

THE ARCHITECTS' JOURNAL & Architectural Engineer

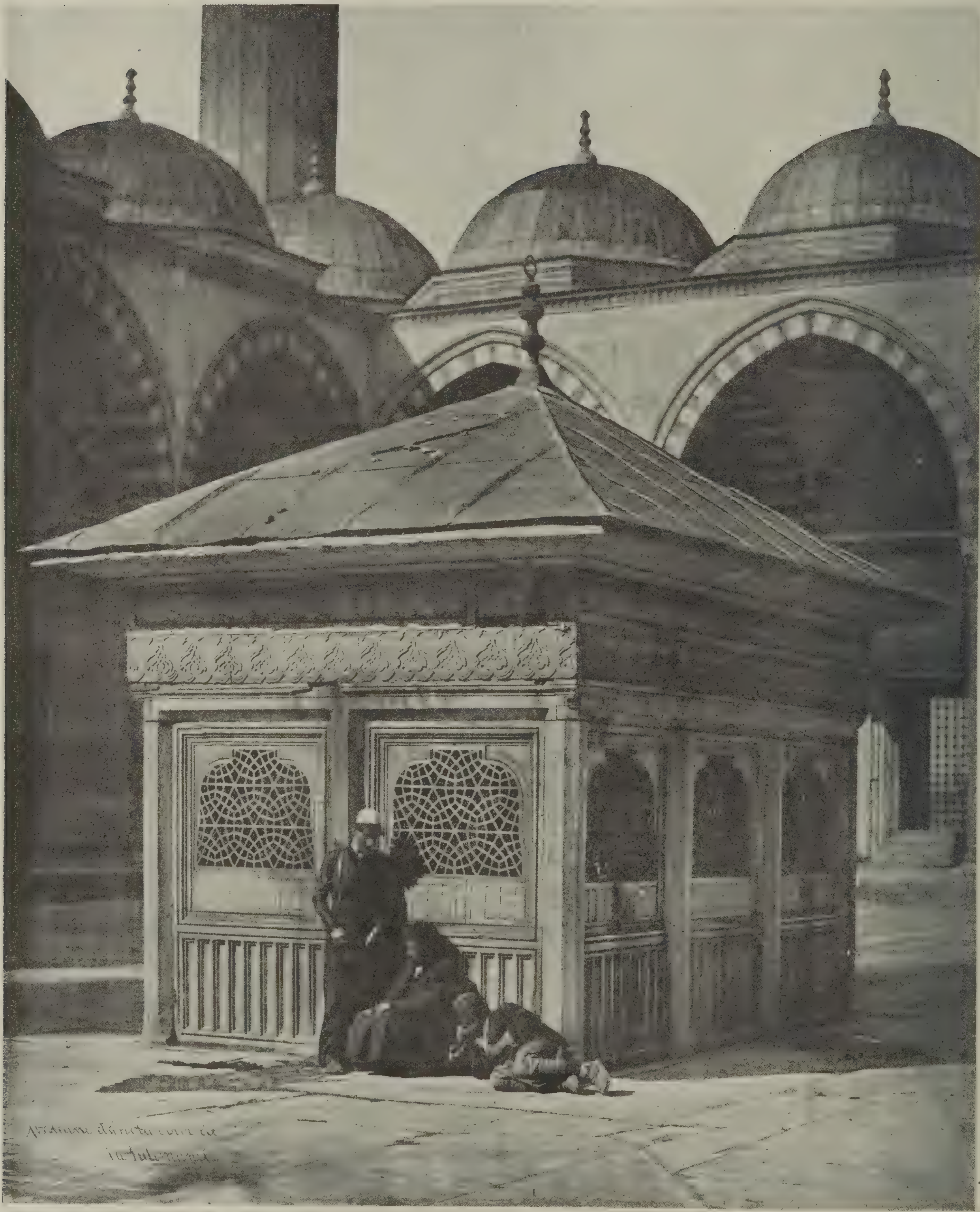
With which is incorporated "The Builders' Journal"

JOSEPH BONOMI THE ELDER (1739-1808).

Joseph Bonomi was born in Rome, of Italian parents. He came to this country on the invitation of the Brothers Adam, and enjoyed much professional success as an architect in London. In 1775 he married a cousin of Angelica Kauffman. He achieved distinction as a leader in the revival of Greek architecture, his buildings, which are chiefly in that style, including Dale Park, Sussex, a small church at Packington, Warwickshire, additions to Langley Hall, Kent, the chapel in Spanish Place, Manchester Square, London, and, his last work, an Italian villa at Roseneath, Dumbartonshire, for the Duke of Argyll.

27-29 Tothill Street, Westminster, S.W. 1.

Kiosk in the Court of the Sulieman Mosque, Constantinople



This little structure provides an excellent motif for an exhibition kiosk or pavilion. It is not always essential to have four columns and a pediment for such a structure, as this delightful example clearly shows. For small architectural features, motifs derived from periods other than those marked out for historical purposes may be ppropriately utilized.

THE
ARCHITECTS JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, April 20, 1921 Volume LIII. No. 1372

The Office of Works and the Functions of Government

IN the House of Commons, on April 14, Sir P. Pilditch, speaking on the vote of £307,000 to complete the sum necessary for the salaries and expenses of the Office of Works, said " he did not want to see a great central bureaucratic architecture and building works department absorb the duty, or any considerable part of the duty, of carrying out the housing of the people." Nobody wants to see it, except the extremists of the Labour Party. Mr. Lorden, the member for North St. Pancras, supported this opinion by saying that " he was strongly opposed to the endeavour to nationalise the building industry by a backstairs method." To this Mr. Albert Parkinson, member for Blackpool, added his opinion that it was a mistake for the Office of Works to enter into competition with contractors who could not get the men necessary to carry out their contracts. Other members joining in the debate criticised the Government housing policy. Mr. Inskip, for instance, protested against the Office of Works usurping the functions of local authorities in various directions, and said that if the Department had a little more faith in the capacity of citizens to carry on their own business we might get back to the conditions of happier times. He was quite right. If, at the end of the war, the industry had been left to manage its own affairs, it would by this time have settled down into steady prosperity, and would incidentally have settled the housing question. The Committee agreed to the vote, but the marked trend of the debate, in which nobody had a single good word to say in favour of the State housing policy, should convince the Government of the wisdom of curbing the ambition of bureaucracy, especially that of the Office of Works. No matter what direction the competition takes, it is indisputably iniquitous for a Government Department to launch it against any section of the professional or the trading community. As an emergency or war-time expedient such competition might be condoned—and even then only reluctantly—but the crisis being weathered, the special machinery devised to meet it should be promptly scrapped. The moment it has ceased to serve its turn it will begin to become injurious to the State and the community it was created to serve. Unfortunately, the scrapping is not easy, and the very great hardships it must entail on the emergency staffs make kind-hearted officials anxious to provide work for them. Nevertheless, an inflated Works Department can only be regarded as an injustice to the private architect or builder, who is compelled to support the institution by contributing to all its expenses, to his own loss and detriment. To say that Government or Municipal Departments are in competition with the private adventurer is a euphemism. They disdain to compete. When they enter the field, private enterprise has not the remotest chance against them. It has nothing to do with the work except to help to pay for it. We understand, however, that the intense public demand for economy is taking effect even in the Office of Works, as well as in other Departments, and that members of the staff are under notice. We can assure them of our sincere sympathy, and this we offer without the slightest prejudice to disapproval on principle of the policy of herding together professional men—architects, draughtsmen, surveyors, and so forth—in Government offices. If all the Government Departments, including the Office of Works, that have assumed executive functions and are continually enlarging them, could be extinguished quite painlessly the professional and the trading community would exchange burdens for benefits. For an atmosphere of officialism is asphyxiating both to art and to economy, and better government would ensue if the State were not so hopelessly clogged with executive duties and surrounded by technical Departments of which it knows nothing except what it is told by permanent officials, and cares rather less than nothing until awkward questions are asked in Parliament. Government will continue to lose power and dignity as long as it continues to dissipate so much of its vitality and influence on meddling with professional and industrial affairs with which it can deal neither constitutionally nor competently. The extraordinary muddle at Canberra is by no means the only, although it is the latest and most prominent, instance of the deplorable evils of a Government's voluntary interference in practical affairs. One might also cite the Post Office and the telephone service; but the precipitation of the coal crisis and its train of evils shall not—at all events not yet—be laid to the charge of a Government that, at the time of writing, should and will receive the support of every loyal subject in its delicate and dangerous task of staving off anarchy and chaos. With respect to the Office of Works, Sir Alfred Mond, in replying to his critics, showed some slight but very welcome traces of a sense of humour. He said that the Office of Works was no longer a quiet family party to look after a few royal palaces and the birds in the parks. (Would that it were.) It was now, he said, carrying out a very large number of responsible duties. (Would that it were not.) That is precisely the gravamen of the charge against it, and the gravamen also of its charges against us; and it is exactly why the expenditure of the Department has risen from £188,700 in 1912-13 to £863,908 in the present year, and why the high-salaried officials have been granted heavy bonuses. One would fain see the lighter duties (and incidentally the lighter salaries) restored to these doubly overburdened officials.

Notes and Comments

The Huts in the Parks

ADVERTING once again to the debate in Parliament on the Office of Works, which held much architectural interest, one cannot withhold sympathy either from Lieut.-Commander Kenworthy in urging the Ministry to clear the huts out of the parks, or from Sir Alfred Mond in his pathetic reply. The removal of the Germans from the Hindenburg line, Sir Alfred said, was an easy task compared with the endeavour to get a Department to go somewhere where it did not want to go. A Treasury Committee, he informed a complacent House, is now sitting to consider the question of who is to be moved to Acton. Part of the building there is to be ready in a few months, and he hopes to see it completely ready for occupation before the year is out. When Acton is in full swing, those disfiguring huts are to be removed from the parks. With respect to amenity, this answer to an exceeding bitter cry is fairly satisfactory; but, nevertheless, the keen economist, who is just now, as the plantation poem has it, "kicking up behind and before," will want to know why the augmented staffs that required the huts are to be given permanent buildings. It was fondly thought that, like the huts, their occupants were but temporary; but the time to be spent in putting up permanent buildings at Acton completely dispels this pleasing delusion.

Labour and the Building Exhibition

Before it was quite certain what would happen with respect to the strike which the transport workers had arranged for ten p.m. last Friday, but was in the afternoon of that day reported to be cancelled, the managers of the Building Exhibition pluckily resolved to carry on in any event. This was quite the right thing to do, and the action may be taken as symptomatic of the determination of the British public in general not to be bullied and coerced into abject submission by a comparatively small and an exceedingly selfish and tyrannical section of the community. In case of the threatened transport strike materialising (but at the time of writing it seems that the transport strike is absolutely off, owing to a split), there might be some slight falling off in the numbers of visitors from a distance; but the incident would not greatly affect the number of Londoners passing the turnstile. To carry on normally, as far as possible in every business, is always the safest course for the prevention of "popular tumults," a common phrase by which our ancestors were accustomed to designate a too common phenomenon. By the way, a cynic has remarked to us that a strike would not greatly lengthen the intervals between the trains from Earl's Court to the Exhibition, which run about once an hour. One would have thought that an enterprising company like the "Met." would have put on an extra service for an important occasion like an exhibition at Olympia.

The British Parlour Vindicated

The great and perennial parlour question seems to have been settled quite definitely. Not finally, however, for a new generation is certain to challenge afresh its right of being, to allege once more that it occupies unprofitably and expensively a valuable and disproportionate amount of space, that it harbours hideous wax fruits, deplorable pictures, and atrocious furniture, and that fortunately this chamber of horrors is locked up for six days out of the week, and on the seventh its damp and fetid air ruins the health of its occupants. All these things are certainly true of some, this of one parlour, that of another; but the parlour of which they are all true is growing very scarce. Taste has quite perceptibly dawned among the people, and the means of gratifying it have ceased to be rare. Often the parlour in the worker's house is quite a decorous little room quite free from every detail of ugliness and even containing some few elements of beauty. We have always urged its retention, because it is a symbol, even a shrine of respectability—a place in which the housewife may take pride, where she may receive her honoured guests, where her student-teacher son or daughter may con their lessons in quietude, where, in the process of adorning it, she may even, with the help of said son or daughter, acquire a certain degree of æsthetic refinement. We are glad to be confirmed in our affection for the parlour as a peculiarly British institution of extraordinarily psychological influence—an æsthetically and ethically stimulating, refining and elevating influence—we are glad to learn that our unfaltering regard for the worker's parlour is shared by no less an authority than the Housing and Town Planning Council, which after thorough investigation is able to assert that "the opinion of women who live in small houses is almost unanimous in suport of keeping the parlour," which the Council therefore regard as an essential part of the working-class dwelling. It is not the National Council, however, but the "Daily Telegraph," which has declared roundly that "the British Empire is built upon the British parlour," which in that case must have extremely sound and firm foundations. There is no need for the parlour to occupy over-much of the somewhat restricted space of the average small house; it is the existence of such an apartment—not its size—that is the important point, and we are glad that this has now been recognised.

Ancient and Modern Monuments

That breezy debater, Lieut.-Commander Kenworthy, said, in the House of Commons debate on the Office of Works supply vote, that new monuments erected in London and elsewhere need supervision just as much as ancient ones. London, he added, is at present disfigured with hideous monuments of past warriors, nobles, and monarchs. It is an argument for the formation of a committee of taste. Sir Alfred Mond (who mentioned incidentally that while he was at the Office of Works he had managed to establish a Sites Committee, which included eminent architects and was of some assistance in discussing designs as well as sites), thinks perhaps Commander Kenworthy's grievance might be met by following the example of America, where the Washington Committee of Fine Art includes the heads of the architectural institutions of the country to advise the Government on matters of art. Something of the sort should certainly be tried here. Such a committee, if genial, enthusiastic, fair-minded, and free from fads and prejudices, should do a vast amount of good; for the public is greatly in need of sound guidance on matters of art. As Commander Kenworthy said, our new monuments, even more than the old, exist to prove it. Architects certainly cannot be left out of such a committee; and in fact Sir Arthur's rather naïve observation that the architects on his Sites Committee sometimes discuss designs was probably rather astonishing to a House of Commons that contains only one architect member. The House must have wondered what on earth designs had to do with sites! Sir Alfred, however, has evidently glimpsed the truth that the two things are related indissolubly, and had therefore better be in close agreement. It is as true of a building or a statue as it is of a living being—though of course not exactly in the same sense—that environment imparts or destroys character.

What is Wrong with Architecture?

Some Further Views

MR. CHARLES COWLES VOYSEY supplies some thoughtful answers to the above question in his article which appeared in last week's issue of the Journal (writes an esteemed correspondent). Perhaps it may be permissible to continue the discussion along somewhat different lines.

Just now it is the conventional thing to attribute the shortcomings of architecture to public indifference towards the "Mistress Art." But architects are by no means alone in believing that their troubles are due to the apathy of the public. Painters and sculptors are equally ready to heap contumely upon the luckless and long-suffering "man in the street." And not only painters and sculptors. In the literary, musical, and dramatic periodicals the plaint is just the same—the low level of popular taste. The public, we are told, are ignorant of, or else utterly indifferent to, all forms of good art. In scientific circles also a great cry goes up against the public. Here, we are told in effect, is modern science, fraught with illimitable possibilities for the progress of the human race, and the "man in the street" knows so little about it that he would be at a loss to name the chemical constituents of the air which he breathes. Thus assailed on all sides, the "man in the street" may at least be excused if, in his bewilderment, he does nothing and pleases nobody.

Why Blame the Public?

That the great mass of the general public are as ill-informed as their critics allege need not be doubted. But the question arises, To what extent may the public be held responsible for the poor level of artistic achievement which admittedly prevails? The public, even if it were not mostly inarticulate, has little opportunity for expressing its likes and dislikes; and even when it does occasionally become vocal, who listens to its plaintive cry? No, we ought not to be too ready to blame the "man in the street" for the failings and deficiencies of architecture.

The position as between architect and public is one of deadlock, founded mainly on the theory, supported by the architect, that a nation or an age gets the architecture that it deserves, the obvious inference being that the community is the responsible and controlling party. Yet if the general community is wholly indifferent to architecture how can it have any wishes to express? If, however, the theory is correct, is it not rather unwise to allow the public to wallow any longer in its ignorance, when, with patience and a little gentle reasoning, it might be brought to see the error of its way? Yet little, if anything, is done to bring light where there is only darkness; and we have to assume, therefore, that the architect is party, even if unwillingly, to this condition of deadlock, or what explanation can we find for the present unsatisfactory condition of affairs?

False Analogies

What is obviously wanted, if the theory of public responsibility is correct, is a vigorous campaign of enlightenment, and the sooner it is undertaken the sooner shall we see that improvement in architecture that we all so earnestly desire. It is not enough to stand aloof and impassive while dark deeds are being perpetrated.

Nor is it particularly helpful to point to the great creative epochs of architectural art, and to attempt to draw analogies between them and our own time. The day of the small, self-contained, and segregated community has gone. The horizon has widened enormously; possibly it has widened over much. Our trouble to-day is that we know too much, and at the same time too little: too much in the sense that the architecture of every clime, race, and period is at the disposal of anybody who cares to consult a comprehensive architectural library—too little in the sense that this great storehouse of accumulated knowledge is too often drawn upon without any display of critical or analytical judgment. Lecocq was not altogether without justification for his cynical comment that "the more we study the past, the less we understand and appreciate the present."

The Loss of Tradition

Another factor in the case is the crank who is always crying for a new style of architecture—who urges us to forget the past entirely, and to concentrate upon the production of something which shall be truly expressive of our own day. The effect if this kind of incitement is everywhere apparent, and in the upshot we have a peculiar assortment of architectural experiments which are representative only of their authors' labyrinthine minds.

An impartial survey of the situation reveals the indubitable fact that the principal cause of our troubles is that we have lost touch with our national tradition; and until we get back to it there is no possibility of progress on sound and rational lines. In getting back to this tradition, we must hope for little assistance from the general public. It is for architects themselves to give the lead. The "man in the street" usually has only to be told by an expert that such and such a thing is correct and he believes it: he is extremely amenable to authority. Let architects have the courage of their convictions, and the "man in the street" will be no serious obstacle to progress.

Hope for the Future

The toughest problem ahead is the conversion to the new faith of constituted authority in its different forms and degrees. We want more civic enlightenment. Especially we want what Professor Lethaby has called order and tidiness in our streets. We want some "competent authority" who shall determine such simple things as the general lines of window openings and cornice levels—somebody who shall be not only empowered, but qualified, to quash any building project that fails to conform to a certain standard of order and decency. A "Ministry of Fine Arts"? As you will. We have not heard much lately of that one-time familiar panacea for all our civic ills. Whatever we may call it, let us work to secure a measure of control over the "conventional scenery of our public streets."

Architectural education is at last being conducted on systematic lines. Before long the various schools throughout the country must work more or less upon a common curriculum. At the present time, even, there is no serious disparity in the aims and ideals of the leading schools of architecture. In this may be observed the seed of a revival of the national tradition. With the possibility, also, of Registration becoming an accomplished fact in the near future, the auguries for architecture are distinctly favourable; and we have good grounds for hoping that it may soon be quite superfluous to enquire: "What is wrong with Architecture?"

Architectural Causerie

Interesting Chambers Relics

A VERY interesting collection of letters by Sir William Chambers, dealing with the architect's private life, came under the hammer at Sotheby's on Tuesday last. The lot included an original proof sheet of the folio treatise on Civil Architecture, with the author's corrections. There were letters from Master George Chambers, in round copper-plate hand, headed Chiswick, evidently written to the King's architect by an ordinary son, aged twelve, under the eagle eye of Dr. Thwackem. Chambers built a fine country house at Whitton, near Hounslow, on land which he purchased from the executors of a Duke of Argyll, and judging from his own inventory of his personal effects, had a goodly stock of furniture, and many pictures. Among the papers sold at Sotheby's relating to Sir William Chambers was an invitation to the architect from the Society of Antiquaries to attend a lecture on the furniture and appointments of a house of the 1628 period. It thus appears that architects of every period have been forced to look backward in order to go forward.

An Oxford Street Restoration

One of the most satisfactory rebuilding schemes of the present day is to be seen at the corner of Stratford Place in Oxford Street, where an attempt has been made to restore the original scheme in its entirety, and at the same time to fit the new buildings for every day use. One might take exception to the character of the vermiculated piers on the ground floor, and also to the attic windows, and to the brassy detail of the shop fronts. That, however, is a matter of little or no moment. The really interesting point is that in this rebuilding is to be seen the fruit of the joint efforts of the Royal Institute of British Architects Art Committee, and of the London Society—who in the first place voiced a protest against the demolition of the angle pylon and indiscriminate rebuilding. With the scaffolding as yet but partially removed, it is not possible to judge of the full effect of the scheme, but it can be assumed that the building will be among the best things architectural in Oxford Street. From the newness of the bricks and the Portland stone of this building one can gauge of the quality of the work of the last quarter of the eighteenth century as it appeared to the eyes of travellers along the Oxford Road, when the showy coloured bricks and the lacings of white stone called forth the comment of Walpole. It is a real pleasure to notice what a contrast the simplicity of this front makes with the meretricious newness of other buildings. Perhaps in a few years a similar rebuilding will be undertaken on the other side of Stratford Place.

London's Atmosphere and Stone

The effect of the atmosphere of London on building stones is being closely observed by the Science Committee of the R.I.B.A. Some stones resist it admirably, others begin to perish almost as soon as they are exposed to it. Hitherto no definite knowledge has been collected to guide architects and builders. For ten years now with the enthusiastic help of the authorities, especially Mr. Howe, of the Geological Museum in Jermyn Street, the R.I.B.A. have carried on an enquiry. Samples of building stones were placed on the roof of the Museum, and the Science Committee have periodically examined them and careful records are made. Results are now becoming available. The subject was discussed on Monday last at 9 Conduit Street, when Mr. Alan E. Munby, Chairman of the Science Committee, read a paper on "The Utility of Research in Building Materials." In view of the high cost of building the matter is of the greatest importance. Year by year the effect on the different types of stone is becoming clearer, and the R.I.B.A. should soon be able to publish a report that will really settle a practical point of vast importance not only to London but to all great cities with similar atmospheric conditions.

The Late William Strang, R.A.

Readers will be interested to hear that a selection from the etched work of William Strang, R.A., whose sudden death occurred at Bournemouth on April 12th, has been arranged in Room 132, of the Victoria and Albert Museum. One of Professor Legros' devoted pupils at the Slade School, soon after that celebrated master was installed there forty-eight years ago, Strang retained even in his later work evidences of the inspiration he then received. His output was a very large one. The etchings exhibited cannot cover the full range, but deal with the period of his activities from the early 'eighties until 1914. Further examples can also be seen in the Students' Room of the Department of Engraving, Illustration, and Design. The funeral of Mr. Strang took place on Saturday last at Kensal Green Cemetery. The first part of the service was held at St. James's Church, Piccadilly. Among those present were Sir Aston Webb, P.R.A., Sir Reginald Blomfield, Sir John Lavery, Sir W. Goscombe John, Mr. Henry Pegram, Mr. F. Dicksee, Mr. Derwent Wood, Mr. S. J. Solomon, Dr. F. W. Pomeroy, Mrs. and Miss Morley Horder, and Professor and Mrs. and Miss Rothenstein.

Builders' Education

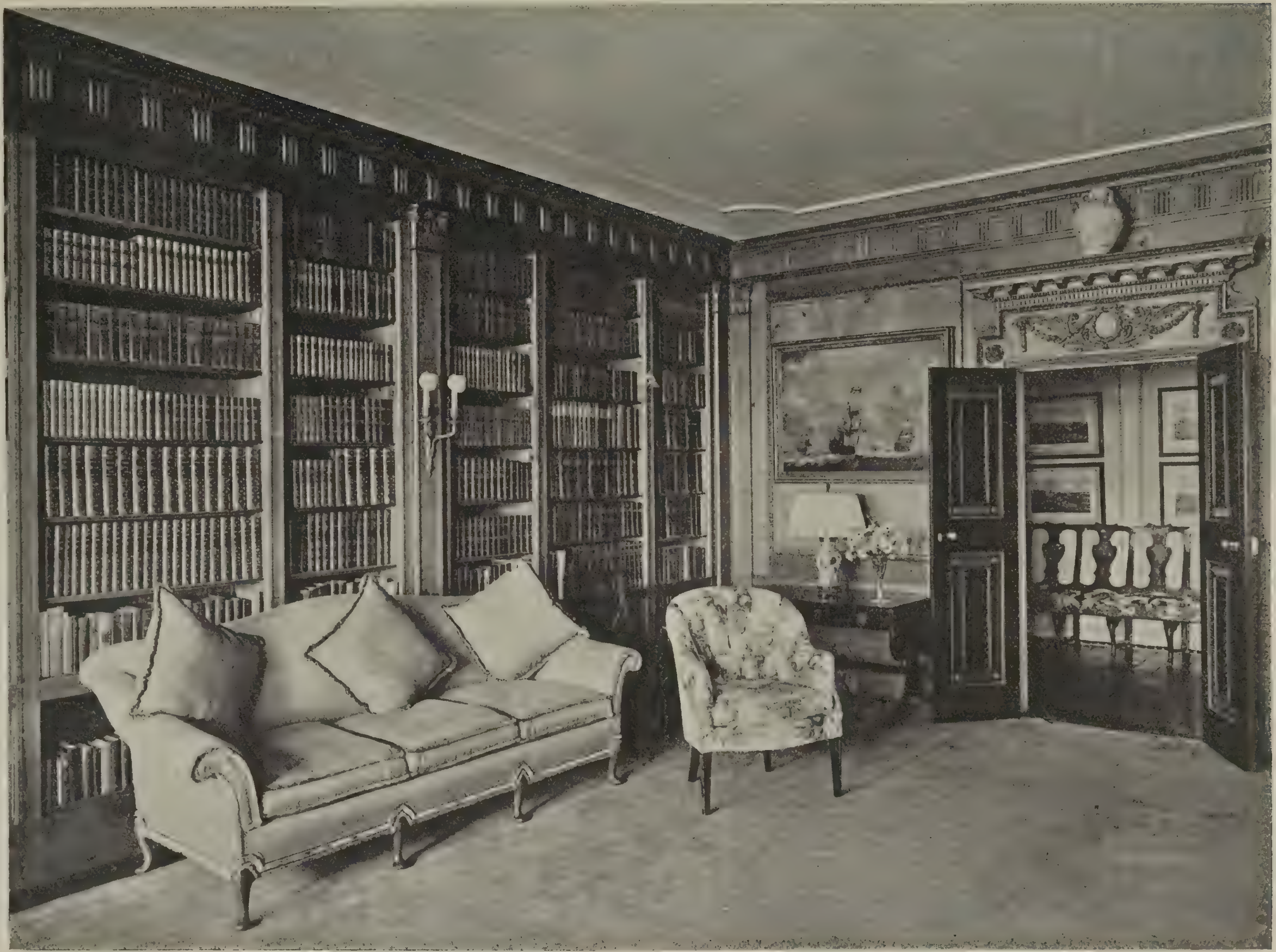
A Cabinet Minister has addressed the Building Trades Parliament. Not lectured it, as is the almost incurable habit of your Cabinet Minister when he is speaking to builders. Mr. H. A. L. Fisher was pleasant and laudatory. He congratulated the members of the Industrial Council for the Building Industry (what a clumsily tautological name!) on making what in his belief is "the first comprehensive attempt to present a plan for the education of the apprentices in a great industry in this country proceeding from the members of that industry," and, as such, he "regards it as an important landmark in our educational history." How tautological, again! but how charming!

Architects and Birmingham Housing

We take the following from the current issue of the R.I.B.A. Journal: "The Birmingham Housing and Estates Committee have decided to place in the hands of a panel of architects—mainly ex-Service men—the development of three estates: The Wakeman-Newport Estate, with sites in Sandbourne Road, Brook Hill Road, Moat House Road, Naseby Road, Nansen Road, Ward End Park Road, and Lime Tree Road; the interior portion of the Farcroft Estate, Handsworth; and an estate in Linden Road and Manor Road, Stechford. It is possible that a further estate will also be handed over to them for development. The above announcement, which appeared in a Birmingham paper recently, is the very gratifying outcome of the long-continued efforts of the Birmingham Architectural Association to get a panel of architects recognised and placed on a firm footing for housing work in their district instead of all such work being handed over to the Housing and Estates staff of the Birmingham City authorities. The Association will have the hearty congratulations of the profession on this happy result of their labours."

Modern American Architecture. 18.—Library in a House at Southampton, Long Island

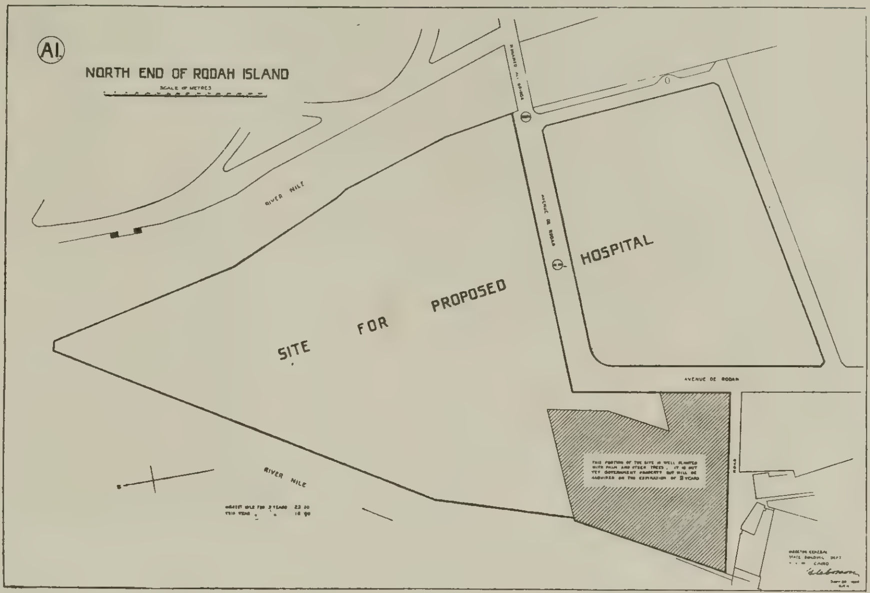
Cross and Cross, Architects



The fine mansion which Messrs. Cross and Cross have designed at Southampton, Long Island, contains an excellent library apartment. The room is simply and appropriately treated in a manner recalling the mature work of the English domestic Renaissance.

Qasr el' Aini Hospital Competition

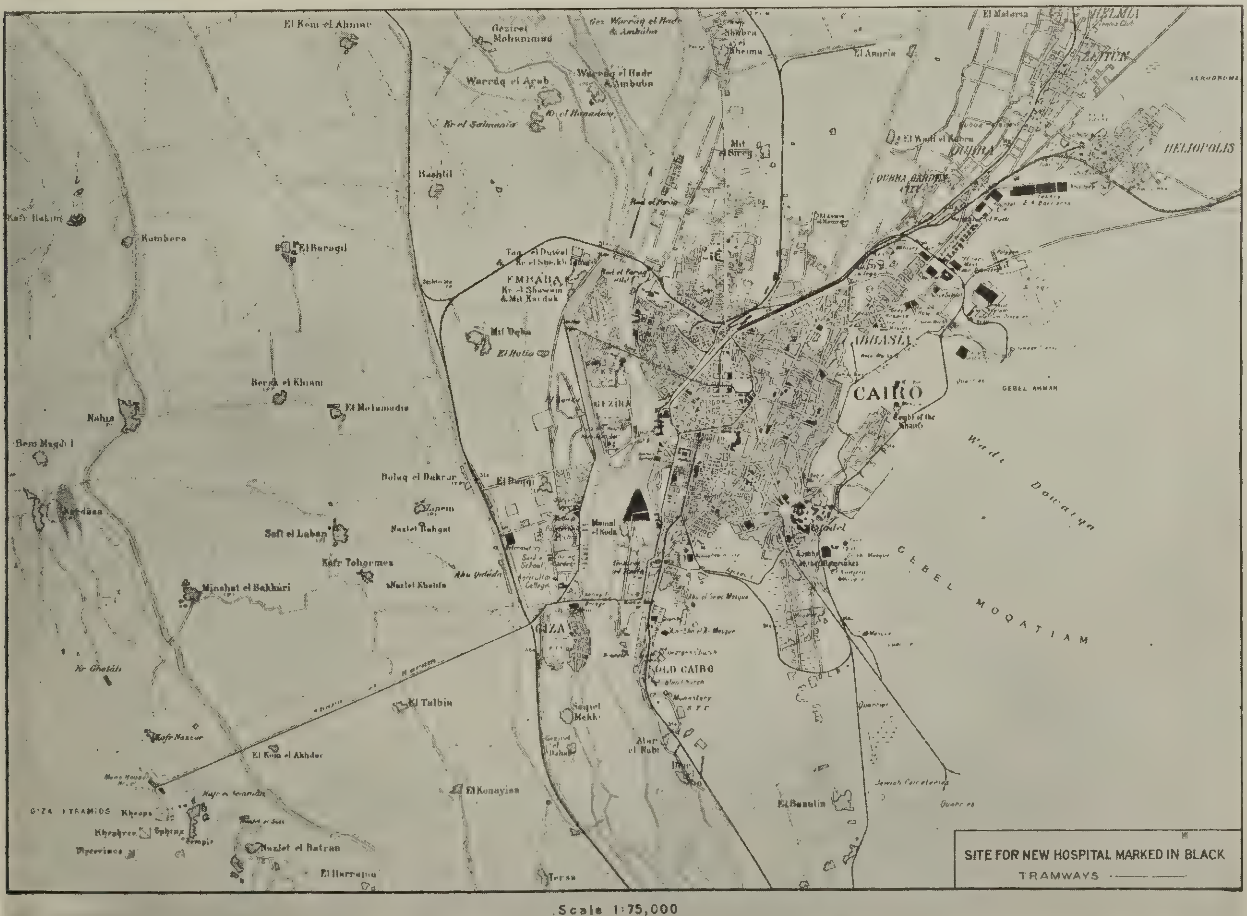
As briefly announced in our last issue, H.H. Egyptian Government invite competitive designs for the new buildings of Qasr el' Aini Hospital and School at Cairo, with accommodation for 1,225 beds. According to the official "conditions" and "instructions," just issued, the competition will be conducted in two stages, the first being a preliminary competition of sketch designs to a small scale, open to all architects. The authors of six designs, selected by the assessor (Mr. John W. Simpson, P.R.I.B.A., Membre Corr. de l'Institut de France), will be invited to take part in the second stage, or final competition, together with six other architects of repute. Competitors submitting *bona-fide* designs in the final competition will each receive an honorarium of five hundred Egyptian pounds, and the author of the design placed second will receive a premium of five hundred Egyptian pounds in addition to his invitation honorarium.



It is the intention of the Government to appoint the competitor whose design is placed first in the final competition as architect to carry out the new buildings, in which case the honorarium will be deemed to be a payment on account of the architect's commission. If no instructions are given to the winning competitor in the final competition, within twelve months of the assessor's award, authorising him to act as architect for and proceed with the new buildings, the author will receive as payment for his services in connection with the preparation of the competition drawings ten thousand Egyptian pounds. If he be subsequently given such instructions to act and proceed, the sum thus previously paid to him will form part of his ultimate commission.

Subject to these provisions the architect appointed to proceed with and carry out the new buildings will receive remuneration according to the Schedule of Charges sanctioned by the R.I.B.A., calculated on the cost of the work executed under his control. The architect will, however, be required, without additional charge, to deposit with the Government on completion of the buildings a complete set of the contract drawings, amended as necessary to correspond with the work as executed, showing clearly all drainage, gas, water, electric, and other service pipes, tubes, and wiring.

The accompanying plan shows the site of the proposed new buildings with rela-



tive levels. The gas, electric, and water mains, and sewers, are to be assumed as laid in the Avenue de Roda, the latter being at any depth required by competitors. The site is at the northern extremity of Roda Island, in the south-western part of Cairo. The small scale plan shows its general position and surroundings; buildings at the north point of the island will be a prominent feature in the landscape. The south-west portion of the site, though not yet in the possession of the Government, may be considered, for the purposes of the competition, as already acquired.

The architect for the new buildings will be concerned, practically, only with work above ground level so far as structural work is concerned. He will, however, design, and carry out, the drainage system up to its connection with the main sewer; all electric, water, and other conduits; such concrete beds under floors and buildings as he may deem necessary for proper insulation; all pavings, internal roadways, planting, gardens, and the like. All preliminary filling and levelling will be done by the Government. Competitors may assume the site to be made up to the surface levels shown (in metres) on the site plan, an average of 21.50 metres.

Exterior Treatment

The design of the new buildings should be a simple and straightforward expression of the purpose of the buildings. The hospital is nevertheless a State institution, and the buildings should be composed to form a dignified and fitting architectural monument. A tower or other distinguishing feature at the northern apex of the island would not be inappropriate, provided it fulfil a useful purpose. Such matters, and the height and number of storeys in the several blocks of buildings, are left wholly to the discretion of competitors. Economy in plan and construction is of great importance.

Each design submitted must comprise the following drawings and information: A block plan of the whole site to a scale of 1 : 1,000 indicating the outline at the ground floor level of each building, with its name attached (not reference letters or figures), the general lay-out, roads, paths, and approaches, the points of the compass. A drainage plan is not required for the preliminary competition.

Floor plans of each storey to a scale of 1 : 400 of each block. Where the accommodation is exactly repeated on one or more storeys, it need not be redrawn, provided the repetition is clearly indicated on the plan titles for the assessor's information.

Sections and elevations to a scale of 1 : 400, as may be required to fully illustrate the design.

A concise descriptive report on the design, with a schedule of the accommodation given, showing the floors on which it is placed, and a short specification of the principal materials it is proposed to employ.

The cubical contents of each building, and the sum of the whole of them, above the ground level. An estimate of cost is not required, but the calculations of the cubic contents must be appended for reference. Verandahs are to be measured as solids after deducting one-fifth of their cube. Importance will be attached by the assessor to an accurate statement of the cube.

At the option of competitors, a sheet, not exceeding grand-aigle (double-elephant) size, of any details the competitor may wish to specially illustrate, drawn to a scale of 1 : 25. The omission of this sheet will not prejudice the judgment of the assessor. No perspective drawings will be admitted in the preliminary competition.

Accommodation Required

The hospital is to be designed in two main divisions, male and female; and there must be no communication for patients or the public between the two divisions. The female side (referred to as the hareem) must be cut off from the male side by an effective wall, if placed on the northern part of the site; there must be a direct road approach to it, outside the male division. The windows of wards and living rooms in one section must not command those in the other, and, so far as may be possible, their respective recreation grounds should not be overlooked by the opposite sex.

The division will comprise the following sections:

Male Division.—Surgical wards and accessories (550 beds), operation theatres, medical wards and accessories (250 beds), clinical instruction, central pharmacy and sterilisation, reception and casualties, radiology, isolation wards and accessories, central kitchens and dining-rooms, mortuary and post-mortem, laundry and disinfection, medical school and pathology, dental school and clinic, steward and storekeeper, power house and plant, small mosque, administrative offices, shelters for tuberculous cases, resident and house officers' quarters.

Hareem Division.—Surgical wards and accessories (325 beds), operation theatres, gynæcological operation theatres, medical wards and accessories (100 beds), isolation wards, infant welfare, sisters' home, staff nurses (*hakîmas*) and probationers' home, extern work.

Out-Patients' Department.—General surgical and medical, shelters for anthelmintic cases (male and female).

Students' hostel and club and director's house.

Hints on Planning

The following extract (this and succeeding extracts are given only as suggestions for the consideration of competitors, who will use their own discretion as to adopting them) from the report of the Medical Committee is given for the information of competitors: "The general direction of the wards should run (approximately) east and west, so that windows should open to the north and south. The grouping of wards into blocks and the number of storeys necessary must be left to the discretion of the architect. . . . The size of each ward should be considered from the nursing and staff point of view. A ward of twenty to twenty-five beds is quite large enough; larger wards are unsuitable for acute cases. . . . Owing to the alterations of the climate in summer and winter . . . the committee favour having a large verandah at the further end of the wards . . . open on three sides and capable of being screened in accordance with the season. These verandahs would take the place of day-rooms for convalescent patients, would serve as dining-rooms, and would allow of beds being moved out into the open air in the daytime.

"For the working of the hospital it is convenient to group the wards into a number of units under the charge of a sister and the direction of a member of the full staff. It was held that an approximate number of fifty beds would form the best sectional unit. These beds would be contained in two main wards and two or three small or special wards holding one to three beds apiece. The two main wards should be on the same floor and . . . . adjoining. The same set of offices might do for both."

The ward offices should comprise: Room for the sister in charge, room for the head nurse (there are no female staff nurses in the Male Division) (*bashtamurgi*, Male Division, or *hakîma*, Hareem Division), small room for the visiting member of the staff, kitchen, storeroom, bed-linen store, bathroom and lavatory, patients' sanitary accommodation and sink room, not near general ward offices (to each ward); room (*kushk*) about 37 square metres (400 square feet) for minor operations and plaster dressings, in each surgical unit; or for testing and microscopy in each medical unit. A small room for testing, in each surgical unit, or for examination, in each medical unit. No storeroom for patients' clothing is required for ward units. A wash-basin should be fitted in each main ward for the use of the visiting staff. Sanitary accommodation must also be provided near the wards for sisters, and in the Hareem for female staff: (a) *hakîmas*; (b) female attendants.

Roof Shelters

The Medical Committee's report continues: "It would be of advantage to provide roof shelters for chronic cases of tuberculosis, since there are no suitable sanatoria in Egypt. These would require very little nursing attention, for bad cases would be kept in the wards or on the verandahs. Such roof shelters could be placed over the medical and surgical blocks." These shelters should have sanitary accommodation, but no special office rooms are needed.

The room for infant welfare will be a half-ward unit, the main ward being unfurnished and fitted up as may be subsequently decided. It should have its proportion of small wards (for foundlings) as to other units, and will be superintended by the sister in charge of the complete unit. It should be on the ground floor, with an external entrance from the grounds, at which the existing marble doorway of the Lady Cromer Memorial Home will be re-erected. In connection with the skin wards, provision should be made for four baths in the male, and two baths in the female division, these being additional to the normal ward requirements.

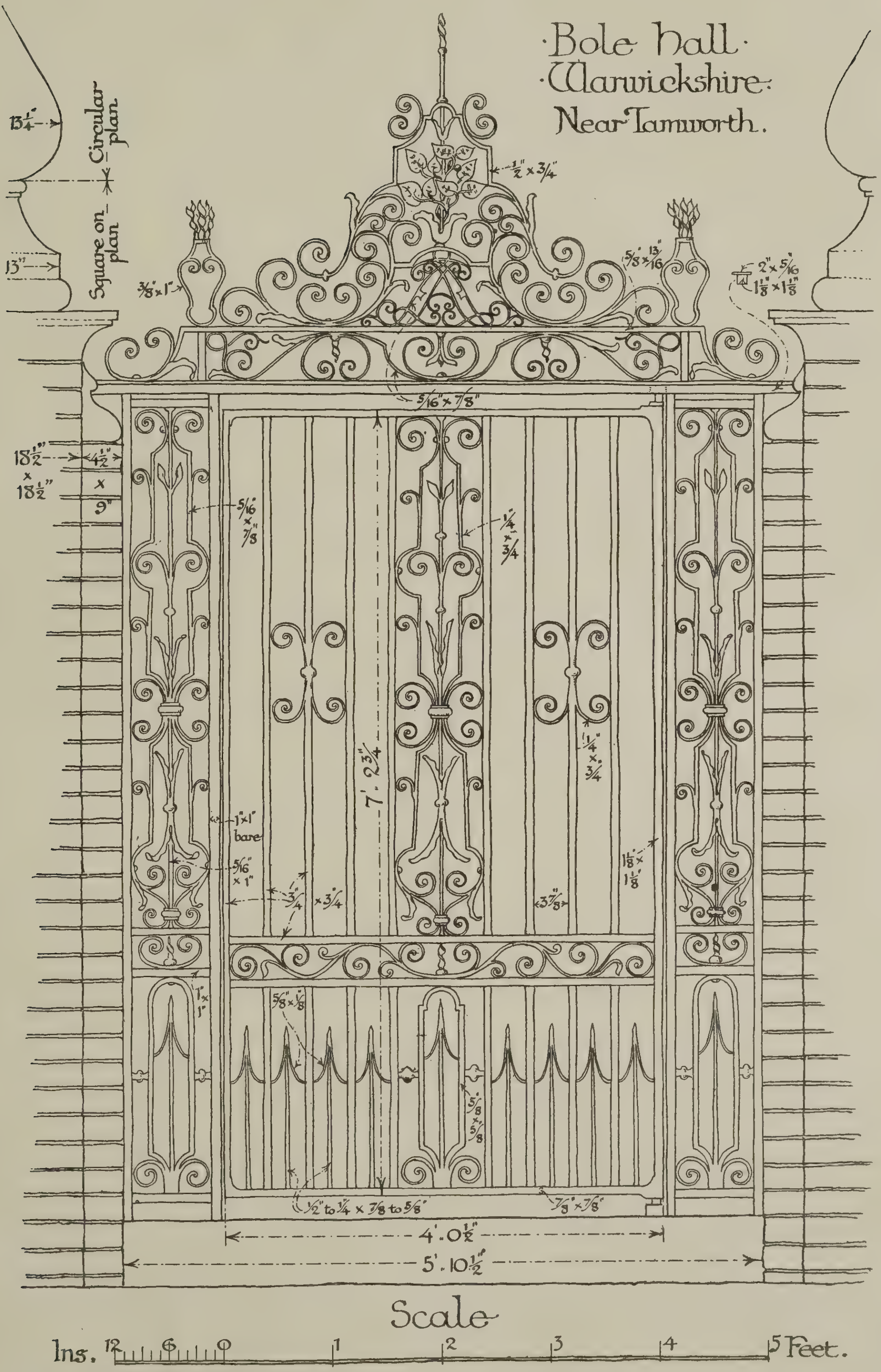
The ground floor of all buildings should be raised well above ground level, with space for the free circulation of air below; but this space should not be so high as to invite its subsequently being enclosed and used for storage. Enclosed corridors between ward units are not required, but the communications should be well protected from the sun, and paved with washable material. A system of trolley-rails should be considered.

The report of the Medical Committee states: "To economise space, time, staff, and material, it was decided that it would be best to centralise the operation theatres in one special block. This building would be situated . . . between the male and the Hareem divisions of the hospital."

It is impossible, owing to the great pressure on our space, to give more than a

Details of Craftsmanship. 10.—Wrought-iron Gate at Bole Hall, near Tamworth, Warwickshire

Measured and Drawn by S. Chesney



Bole Hall is an attractive little brick house of the eighteenth-century period. It has a wrought-iron gate to the principal entrance which is a delightful specimen of design and craftsmanship. Mr. Chesney's drawing, in the freedom of its technical handling, is singularly expressive of the rich quality of the ironwork.

general outline of the competition, and intending competitors should apply for particulars from H.E. the Minister of Public Works, Cairo, Egypt; or to The Secretary, Royal Institute of British Architects, 9 Conduit Street, London, W.1. Applications must be accompanied by a cheque or draft for three Egyptian pounds (or its equivalent in sterling), which sum will be returned to all applicants who submit a *bona-fide* design, or who return the particulars in good condition within one month from the date of their application.

Designs in the preliminary competition properly packed, labelled "Qasr el' Aini Hospital Competition," and addressed to "His Excellency the Minister of Public Works, Cairo," must be delivered on or before October 3, 1921. The date for reception of designs in the final competition will be subsequently communicated to those qualified to take part therein.

All questions which competitors may desire to ask respecting the "Conditions of Competition" and "Instructions to Competitors" for the preliminary competition must be sent in writing to the assessor at 3 Verulam Buildings, Gray's Inn, London, W.C.1, on or before June 6, 1921, and no questions whatever will be replied to after that date. Printed replies to the questions will be drawn up by the assessor and sent to all the competitors.

Enquiries Answered

Stained Woodwork and White Pebble Dash.

Crafts writes: "I contemplate finishing the internal joinery in a housing scheme with one coat of wood preservative and one coat of either wax polish or stopping. (1) How is the former prepared, and how are both applied? Will the finish be a semi-matt surface, that is, a slight polish? (2) Can you give me a specification for fine pebble dash to finish white without being distempered, the first render coat being cement, the second coat being the pebble dash?"

—(1) A suitable finish to give a matt surface showing a slight polish will be one coat of "Solignum," "Peterlineum," or ordinary creosote, either of which is merely brushed on the clean woodwork, succeeded by a polish coat of a prepared material, such as "Ronuk," or one made from beeswax dissolved in turpentine, rubbed thinly over the surface and polished by rubbing with hard brushes. (2) First coat cement and sand 1 to 2, followed as soon as applied by dashing with crushed Derbyshire spar. No so-called white pebble-dash or roughcast gives a very convincing white as compared with limewhite or distemper. G.

Ryder's Scale of Surveyors Fees.

H. J. K. writes, "(1) Where can I obtain Ryder's Scale of Surveyors Fees? (2) What is the best method of testing white-lead—first in the paint in bulk, and, secondly, in the finished work?"

—(1) From Messrs. Ryan and Son, 49 Parliament Street, London. (2) White lead may be tested, whether made into a paint or ground in the usual stiff paste form, by painting it out over a board painted with black lines. This will indicate the body or opacity of the lead, which is, of course, of considerable importance. To discover whether a lead is pure or not, chemical tests should answer, but owing to the action of the White Lead Corroders Section of the London Chamber of Commerce, in causing prosecutions to be taken in the sale of adulterated white lead, the practice is to all intents and purposes stopped. The various pure white leads on the market vary but little in quality. The modern tendency is to use zinc oxide and white lead mixed together in a proportion of about one-third of the former and two-thirds of the latter, and it has been proved time and again that it gives better results than when the pigment is used by itself. The explanation is a simple one. The white lead is inclined to go "chalky," i.e., after exposure for a certain length of time, particularly at the seashore. It gets in a conditions not unlike whitewash, and will easily come off on the hand if rubbed over it. Zinc oxide, on the other hand, is inclined to be brittle. By grinding the two pigments together, the defects of one are corrected by the virtues of the other. Such a mixture is the base of most of the high-class ready-mixed paints on the market.

A. S. J.

Law Reports

Builder's Claim: Repairs to a House

Corke v. Highett.

April 7. King's Bench Division.
Before Mr. Justice Sankey.

This was an action by Mr. Charles H. Corke, builder, Kinnings Row, Tonbridge, to recover from Mr. A. P. Highett, of Hilden House, Tonbridge, the sum of £135 odd for work done and material supplied.

Mr. Merlin appeared for the plaintiff, and defendant conducted his own case.

The claim was in respect of work done for the renovation of Hilden House. The defence set up was that the defendant never gave the order for the work, nor did he authorise anyone to give the order. Plaintiff gave evidence, and said the order was given on defendant's behalf by a Mr. Laming, and the work was done satisfactorily, the charges being reasonable. Defendant chose the wall paper, and authorised extra work being done. Defendant was the secretary of the Storey Machine Tool Co., Ltd.

Cross-examined, plaintiff did not know that Mr. Wm. Storey was the owner of the house. Mr. Storey promised to pay the amount owing, and said he would deduct it from an amount due to the defendant. Mr. Storey never paid.

Mr. Alexander Laming said he prepared the specification at the request of the defendant, and asked plaintiff to give an estimate for the work. Defendant afterwards said he had accepted the estimate.

Defendant, in his evidence, said he was at that time secretary of the Storey Car Co. Mr. Storey purchased the house. It was arranged that defendant should live there as part of his remuneration, and that Mr. Storey should put the house into repair. He never gave any orders for the repairs, and never authorised Laming to give any orders.

His Lordship gave judgment for the plaintiff for the amount claimed, with costs. He entirely accepted the plaintiff's evidence. It was not till the plaintiff took proceedings that the defendant raised the point that he was not liable. It was quite wrong to say that defendant never authorised Mr. Laming.

Architect's claim for Fees

Ridges v. Sole, Ltd.

Official Referee's Court. Before Mr. Pollock.

In this case, partly heard at Southampton, and concluded in London, Mr. Geo. Henry Roswald Ridges, an architect, carrying on business at Above Bar, Southampton, claimed from Arthur J. Sole, Ltd., potato merchants and fruit brokers, of 40 Long Acre, £408 8s. 3d. for services rendered in the preparation of plans for certain building work in High Street, Southampton.

It appeared that in May, 1919, the plaintiff agreed to prepare for the defendant plans, designs and bills of quantities in connection with alterations in, and rebuilding of, premises at 72 and 72a High Street, Southampton, the agreement being contained in a number of letters. It was an express term of the agreement that the defendant should pay plaintiff in consideration of such work five per cent. on the money actually expended, and as to work not executed but shown on the plans or included in the specifications or quantities and approved plaintiff should be paid 2½ per cent. upon the first £2,000, and 1½ per cent. on the remainder, estimated on the amount shown on the plans, and that defendant should be liable to pay plaintiff a further 2½ per cent. in respect of the preparation of bills of quantities, if the builders did not pay for the same, or in the event of the works included in such bills of quantities not being executed. On June 18, 1919, Mr. Soles, jun., on behalf of the defendants, really instructed plaintiff to prepare plans of a building over the whole of the site, consisting of a warehouse, saleroom and two offices on the ground floor, besides a housekeeper's rooms. The plaintiff, in accordance with those instructions and others subsequently given, prepared the plans, in which alterations were made.

The defence denied that the terms of the agreement were accurately stated by the defendant, and said that plaintiff agreed to supply plans and to superintend the work of alteration and the rebuilding of the premises. Defendants also denied plaintiff supplied the plans, and submitted them to the Southampton Borough Council, or that the Council had approved the plans. They further said it was an express term of the agreement that the work of alteration and rebuilding should be completed before payment of any remuneration became due to plaintiff, and, in breach of that agreement, the plaintiff had refused to proceed with the work and abandoned it. For this they counter-claimed.

The Official Referee, in giving judgment, said there was a suggestion by the defence that it was agreed, in case of any dispute, that it should be submitted to arbitration, and they asked whether the payment of 5 per cent. for the preparation of plans was the right thing. The answer to that, however, was that plaintiff had been engaged to act as architect, and expected to be paid. After having reviewed the correspondence at some length, the Referee said he was of opinion that there was no contract on the part of the plaintiff to do anything with the site, and he wanted to be paid for what he had done. Mr. Ridges was perfectly justified in saying he would not render any further services. There must be judgment for the plaintiff for £408 8s. 3d., with costs, the £18 paid into court to be paid out in part satisfaction.

Steelwork in the New London County Hall

THIS building is not a steel-frame structure under the 1909 Act, the architectural design requiring such substantial piers of brickwork and stone in the façades to the road and river and to the principal courtyards as to make stanchions unnecessary, and it was decided to build the walls facing the secondary courtyards complying with the Act of 1894, and also to build the corridor walls, in most cases, of sufficient thickness to carry the floors.

These were the instructions given to the engineers, who were also requested to give effect to all the regulations of the 1909 Act, so far as they could be construed to apply, including the pressure allowed on concrete and on the different qualities of brickwork. In spite, however, of the fact that this is not a steel-framed structure, the very respectable weight of 8,000 tons of steel has been used, of which the roof and the storeys in it absorb 3,000 tons.

It may be well before proceeding to a detailed description of a few of the more interesting features of the work to call attention to the block plan below, showing the division of the scheme into sections, and the sub-division of these into blocks.

The distinctive blocks are Nos. 1, 3, 5, and 9; No. 1 block is in the centre of the façade towards Belvedere Road and contains the public entrance and waiting-rooms and some of the committee-rooms, and is separated by pavilions at each end from the blocks on either side.

Block 3, in the centre of the river front, is in the form of an arc on plan, and also has pavilions separating it from the adjoining blocks. The storeys in the roof of this block are utilised for the staff dining hall and kitchens.

Block 5 occupies the centre of the site, and contains the Council Chamber.

Block 9, with its two corner pavilions, occupies the entire frontage to Westminster Bridge, and contains the main entrance leading by a stone-vaulted carriageway to the Members' Court.

Blocks 6, 7, 9, 10, 11, 13, and 14 face the road or the river, and have stone façades, while Blocks 2, 4, 8, 12, and 15 face the courtyards and have plain brick fronts, except Blocks 4 and 8, which face the principal courtyard and enjoy more elaborate treatment. On the first (or principal) floor the rooms are generally 22 ft. wide and the corridors 10 ft. wide; but above the second floor the rooms are wider and the corridors narrower, the floor girders being in some cases cantilevered over the corridor walls or stanchions.

The design of the steelwork involved not a few difficulties, many of which arose from alterations made in the design or allocation after the building was commenced.

The flèche, which is possibly the most interesting feature of the steel frame from the engineers' point of view, is the most prominent feature of the building. The lantern storey shown on p. 494 is of light steel frame construction, supported in turn by light lattice steel stanchions. The architectural outline is constructed in pitch-pine clothed with copper. The weight down to this point is about twenty-four tons.

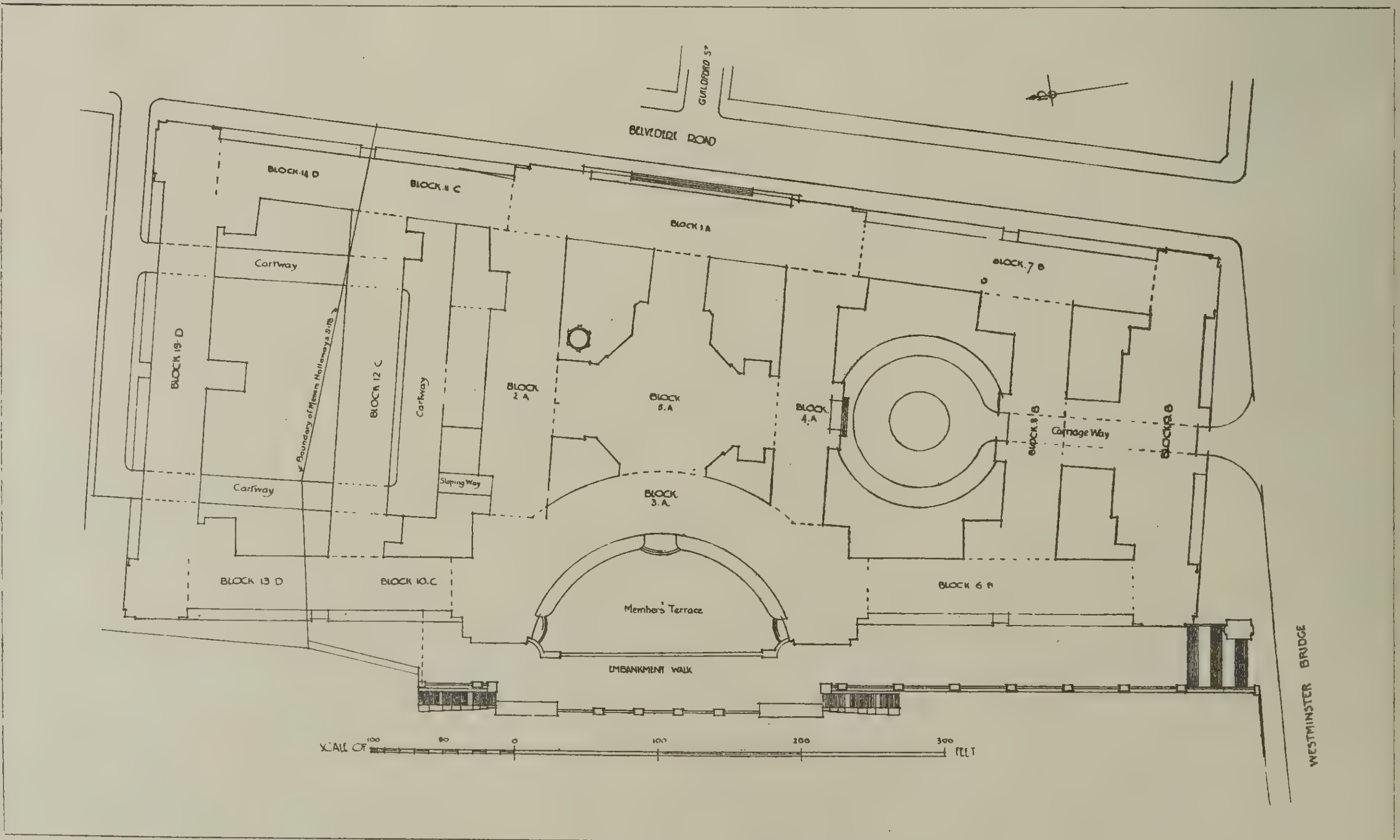
The third storey down (the base of the flèche) is 21 ft. square at the base, tapering to 16 ft. 6 in., and is 23 ft. high above the eighth floor level, the topmost 10 ft. being octagonal on plan and the lower part square with projecting faces.

The four corner legs are formed of pairs of 5-in. x 5-in. x ⅝-in. angles starred (in the form of the letter X) to a height of about 11 ft., above which point the outer angle is continued upwards, but the inner one is stopped, and two pairs of angles connected by means of gusset plates are branched out and carried up a further 11 ft. obliquely, to take two of the eight legs of the octagon. At about one-third the height of this storey the plan is braced by horizontal latticing.

The framing is complicated by the irregular plan and the changes of outline, added to which the curvature of the plan of the building did not tend to make matters easier. Spiral staircases provide easy access right up to the floor of the lantern, and a good view of London should be obtained from this commanding position, 142 ft. above Embankment level.

Two specially heavy roof girders have been devised to carry the long girders supporting the flèche and are built up of 36-in. webs with angles and flange plates, one end having to be tapered and curved to keep within the outline of the roof, and, for the same reason, the main front longitudinal girder had to be kept 3 ft. below the floor.

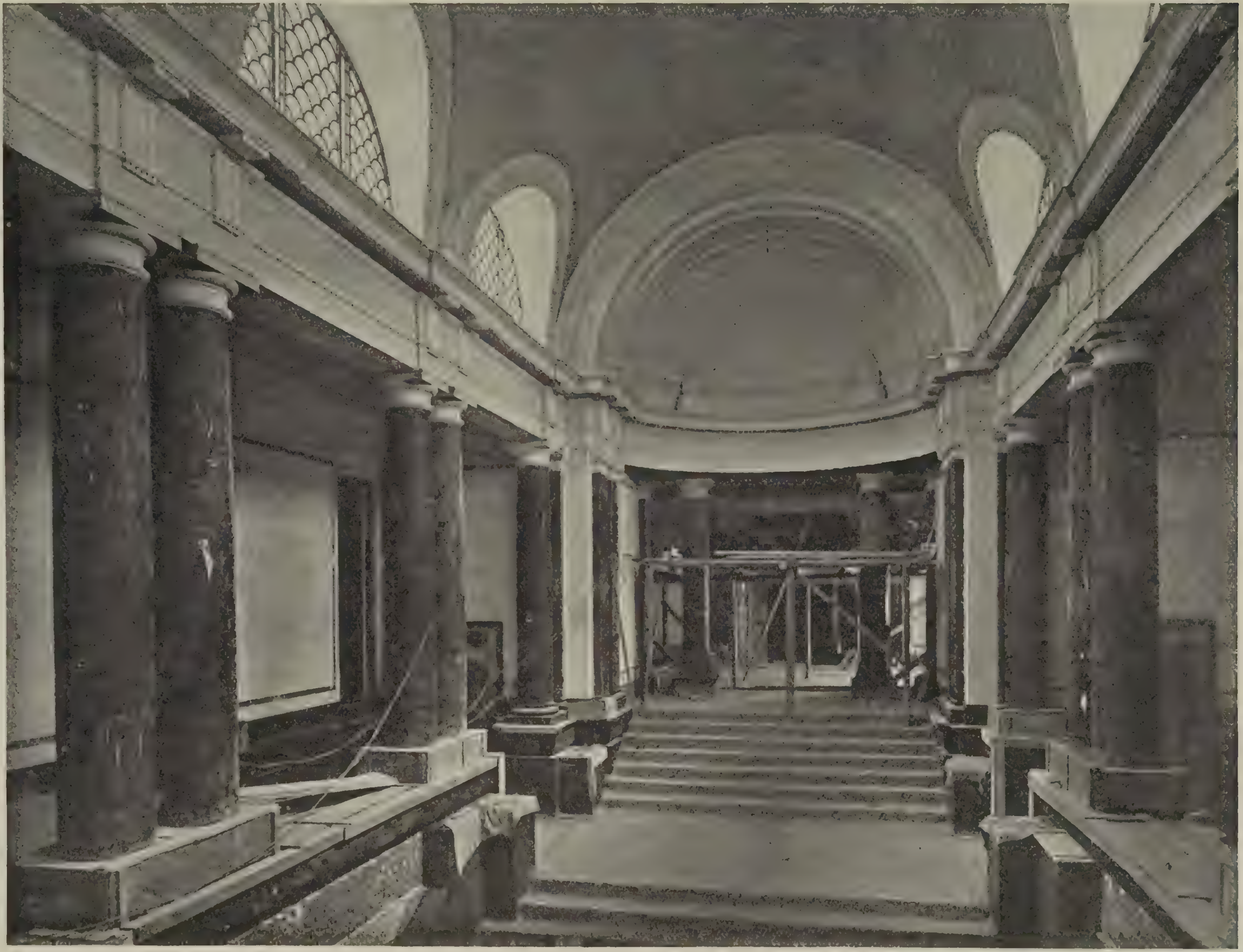
The flèche loses itself in the roof at the eighth floor level, but all the framing below is stiffened to carry its dead load



BLOCK PLAN OF THE NEW LONDON COUNTY HALL.

Current Architecture. 77.—The New London County Hall: Ceremonial Staircase

Ralph Knott, Architect, with W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the L.C.C.



This staircase is approached from the large entrance hall on the Belvedere Road side of the building (see plan in last week's issue). It is 15 ft. in width, its side walls, which support a colonnade of coupled columns, carrying a barrel-vaulted ceiling intersected by the groins of a series of semi-circular windows.
(See also double-page plate.)

of seventy-five tons and to resist a wind pressure calculated at 40 lb. per sq. ft.

The flèche is anchored to the fifth floor by a raking tie, opportunity for this being afforded by the double front wall, there being no space in the back wall for any wind bracing, the wall being thin and the stanchions slender.

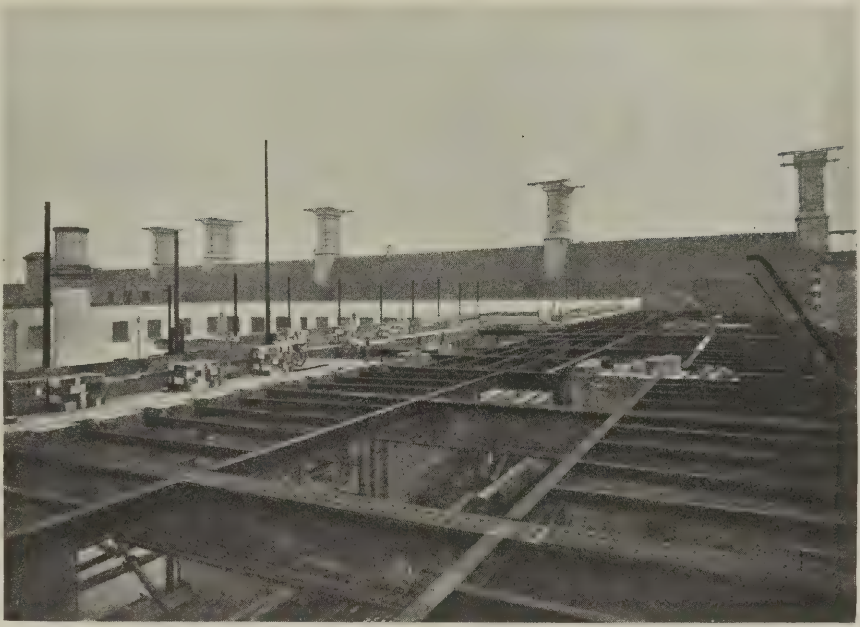
A similar system of roof girders and wind bracing, but, on a lighter scale, is adopted to every bay round Block 3.

This brings the central section of this block down to the level of the fourth floor, between which point and the second floor there is not much of special interest in this section.

The two rear legs of the flèche framing over one of the lobbies to the Council Chamber are carried on a girder which has also to take the straight end wall of Block 5 and the curved rear wall of Block 3, necessitating a "Y" shape on plan, the axes of the two blocks not being in line. This girder has a web 60 in. in depth and ¾ in. in thickness except to one of the branches of the "Y," which is ⅝ in.

The "Y" girder, with its load of 660 tons, is in turn carried on two box girders, which are necessarily shallow and are therefore heavy.

There is little of interest in the two stanchions carrying the front legs of the flèche below the fourth floor, but they are fairly typical of the stanchions generally, which were erected in the following manner. The grillages, with their component joists spaced and bolted, and the two tiers bolted together, were placed in position on steel wedges, and the stanchions were erected and bolted to them steel to steel. The stanchions were then plumbed and their tops brought to the right level, and the grillages then grouted underneath with neat cement, and finally filled in and around with fine Portland cement concrete.



ROOF STEELWORK, BLOCK 4.

The stanchions themselves, wherever they are of hollow section, are also filled with concrete. The thrust from the stone vaulting over the members' entrance in Block 4 is restrained by a steel frame of horizontal and vertical beams, the abutments otherwise being 9 in. walls; the haunches were filled with concrete to a calculated height to keep the line of equilibrium in the arch. Stone vaulting and a dome are also carried over the carriage drive through Blocks 8 and 9, and some steelwork was provided about these, but generally the abutments in brickwork and masonry were sufficient to take the thrusts. The Council Chamber was originally designed as an arched and domed apartment, but the abutments did not appear sufficient to resist the thrusts due to solid construction; and, as last designed, and now erected, it has a trabeated treatment with a flat ceiling. The span being 66 ft. between galleries called for fairly heavy girders.

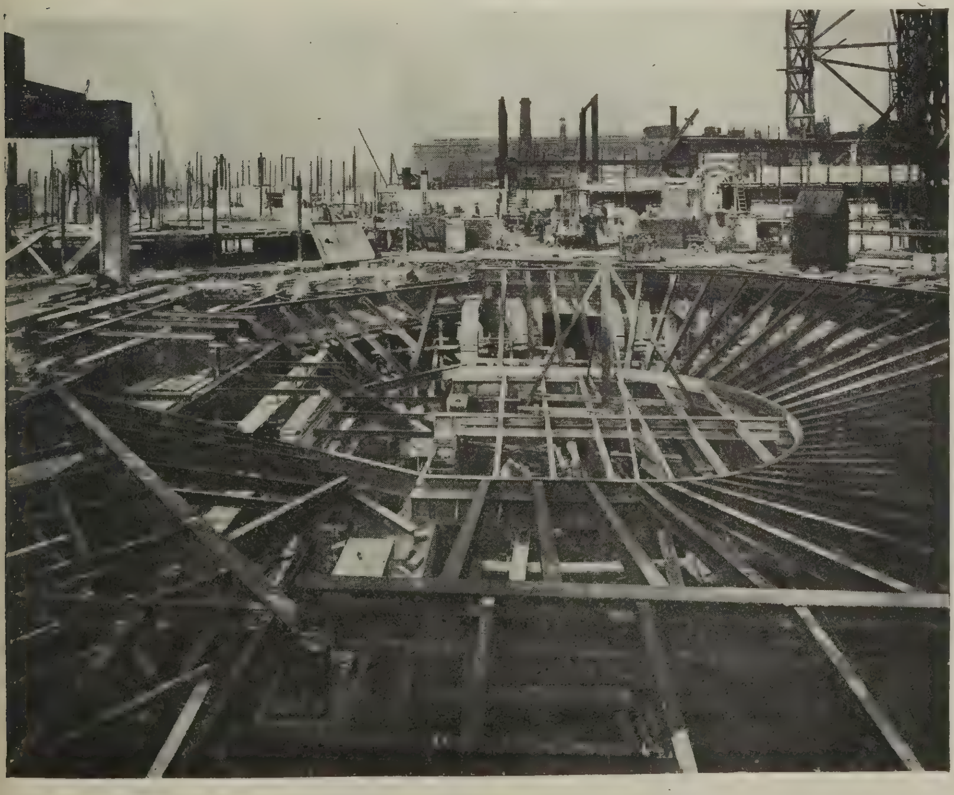
A great part of block 2 is carried over the two-storey boiler-house in the basement on girders and stanchions.

The committee rooms on the first floor of Block 2 are two storeys in height, and the main front wall is carried on girders over these rooms. The partitions dividing the series into separate apartments are removable by sliding down between the walls on the floor below. Block 2 has a flat roof, as have also Blocks 5 and 12.

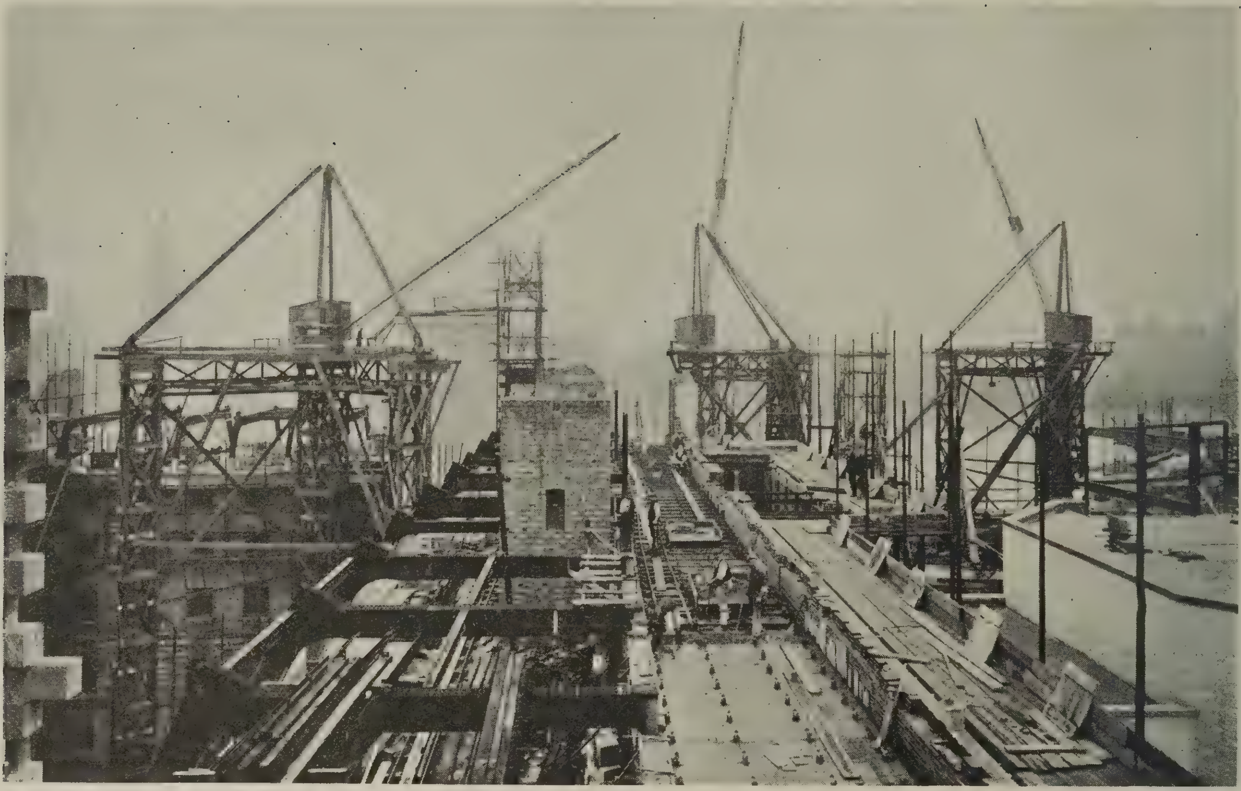
Concerning the construction of the upper part of the roof generally, an "A" frame of 10 in. joists, tied at the middle height with pairs of angles, supports steel joist ridge and purlins, which in turn carry the 4 in. by 3 in. joist rafters. A system of diagonal bracing formed of 2½ in. angles, crossed, stiffens the roof at the collar level. Two types of dormers and three of skylights are also detailed on this drawing. The roof slopes are of concrete, covered with red tiles of Italian pattern.

On p. 493 is a detail of the lower part of the roof framing to Block 4. It is not quite a typical section, inasmuch as the upper girder is strengthened to carry a large tank, and the lower girder is not in this case continued to the back wall, otherwise the lines are similar to those in other parts of Block 4, and in several other blocks. The photographs show the sixth floor bent girders erected on site ready for the seventh floor, as detailed on p. 493.

There have been several proposals for the framing of the roof; the adopted scheme will be illustrated next week. There was, as was anticipated, some difficulty in getting the bent girders, but they are now well in hand, and by the present contractors (the two firms of Messrs. Joseph Westwood and Co., Ltd., and Messrs. E. C. and J. Keay, Ltd.) sharing the work the impossible is being very comfortably accomplished. Messrs. Keay have completed their part of the contract,



STEELWORK OF COUNCIL CHAMBER.



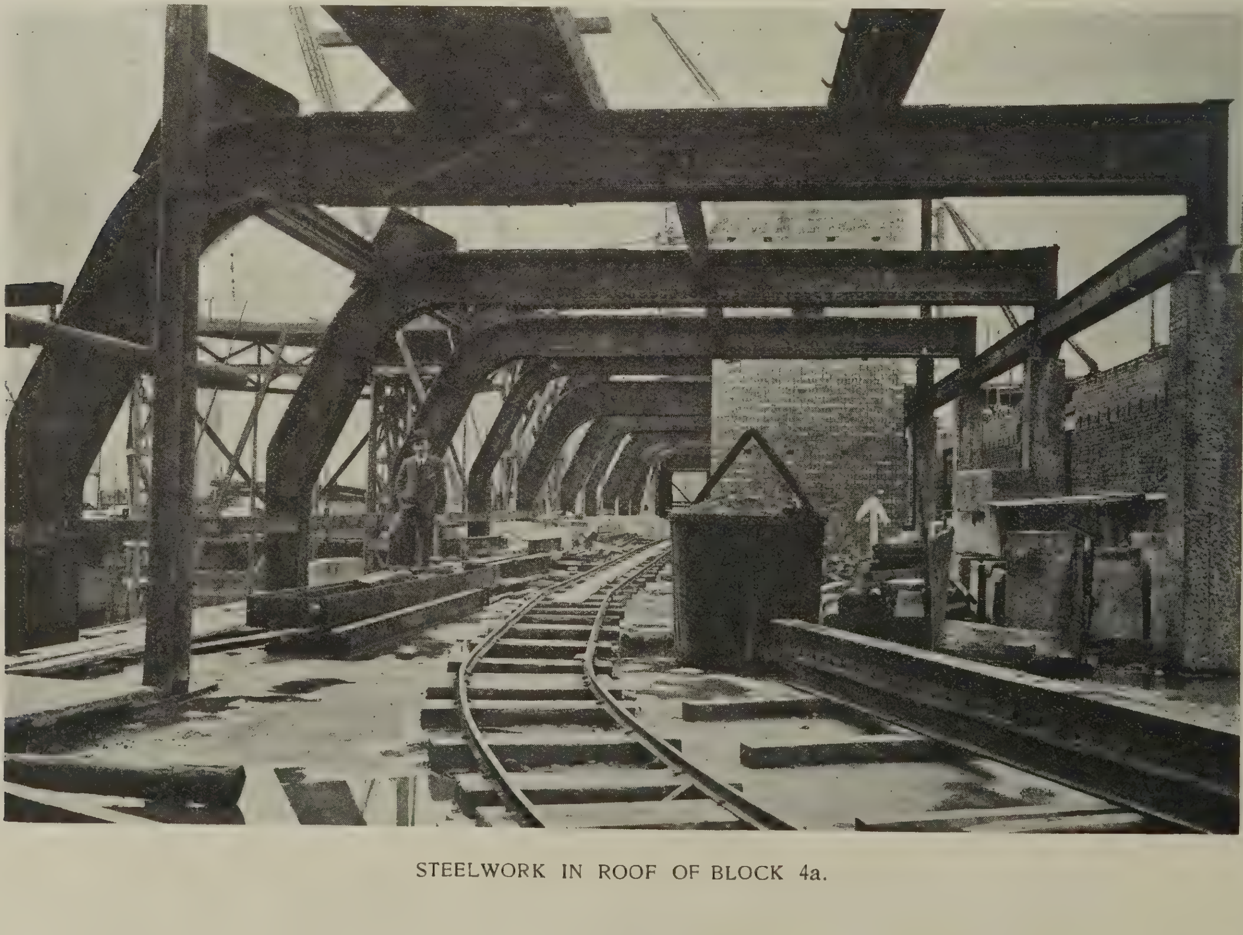
ROOF OF BLOCK 4a LOOKING WEST.

and Messrs. Westwood are very near the end of theirs.

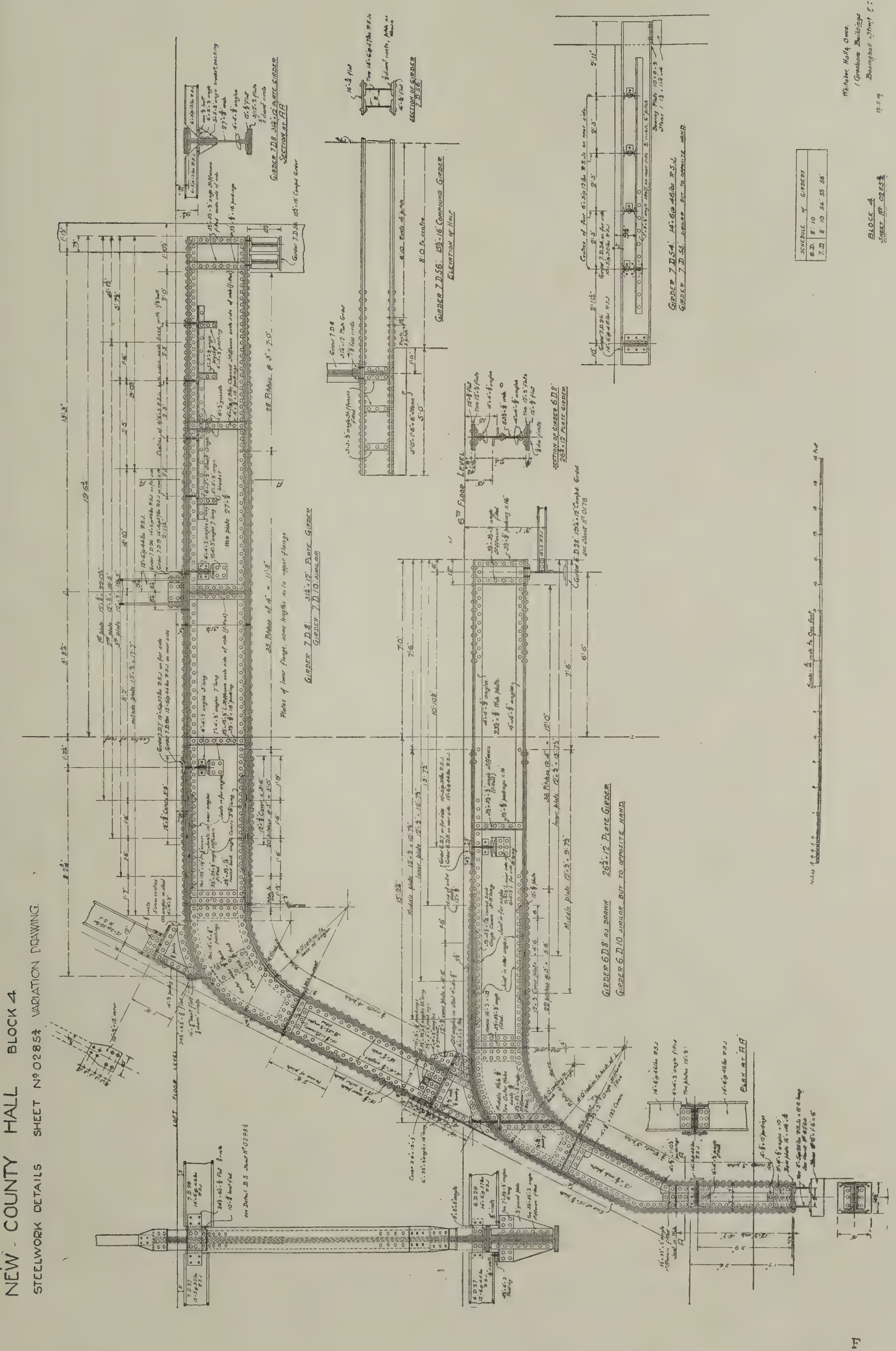
Block 1 is, from the first floor upwards, practically a steel-framed building. A stone colonnade occupies the front, and drives the wall proper, and the stanchions, off the piers below. The stanchions stand on triple joist compound girders, the ends of which rest on grillages of two tiers of joists bedded on the massive brick piers.

The ventilation of the building is by means of air ducts, generally under corridor floors, connecting with vertical shafts, carried above the roof, at the intersections of blocks.

Certain of the chimney stacks are not required below the first floor, and would, in fact, interfere with the accommodation intended in the rooms below that level. They were therefore to be carried on girders above the ground floor, but as this is not a lofty storey the girders immediately over it were designed to support the chimney stack only up to the second



STEELWORK IN ROOF OF BLOCK 4a.

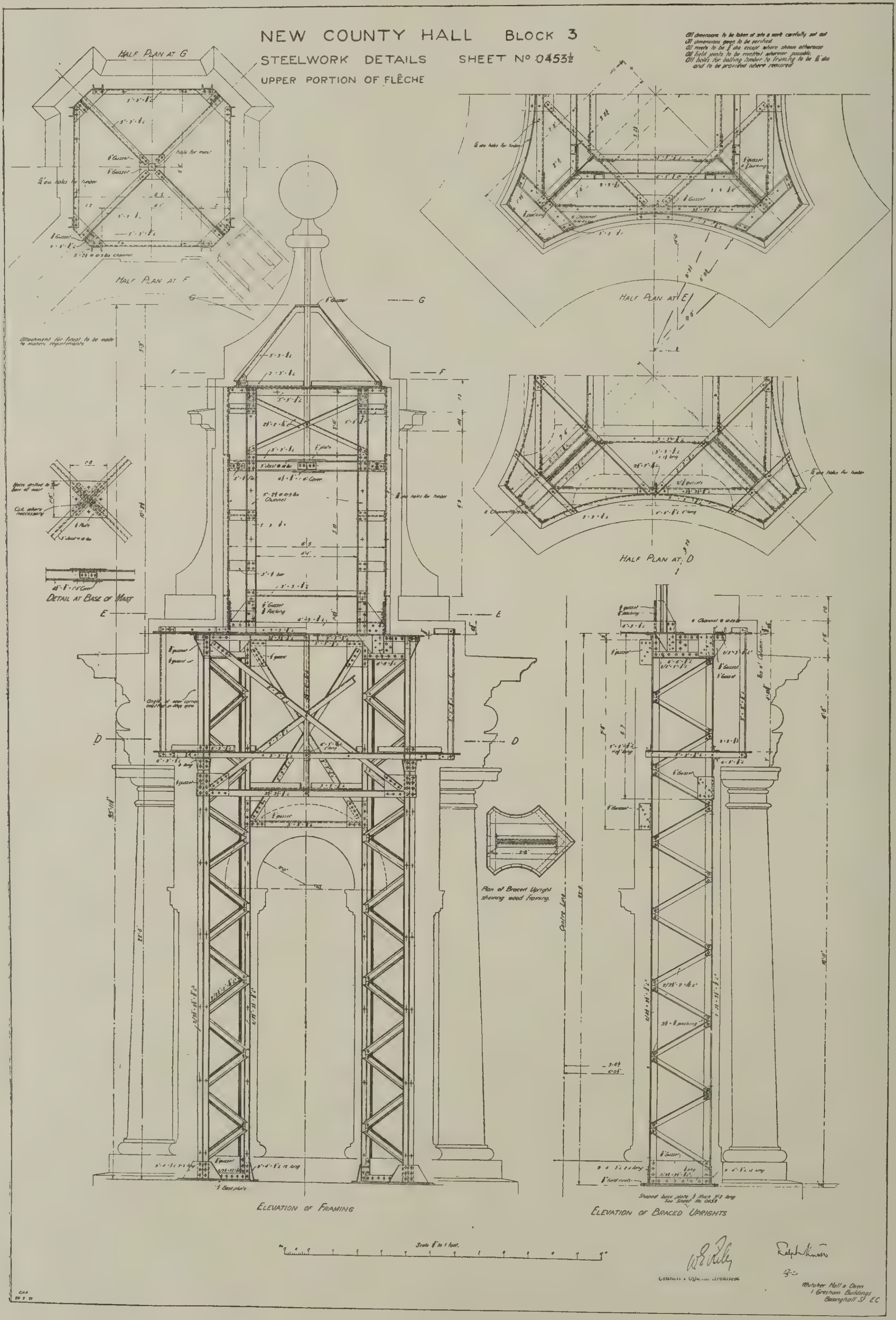

NEW COUNTY HALL BLOCK 4
STEELWORK DETAILS SHEET Nº 0285¾ VARIATION DRAWING.
GIRDER 7D8 31¼" 12" PLATE GIRDER
GIRDER 7D10 SIMILAR
GIRDER 6D8 AS DRAWN 26¾" 12" PLATE GIRDER
GIRDER 6D10 SIMILAR BUT TO OPPOSITE HAND
GIRDER 7D56 15½" 16" COMPOUND GIRDER
ELEVATION OF HALF
SECTION OF GIRDER 7D56
GIRDER 7D8 31¼" 12" PLATE GIRDER SECTION AT AA
SECTION OF GIRDER 6D8 26¾" 12" PLATE GIRDER
GIRDER 7D54 14" 6" 46lbs R.S.J.
GIRDER 7D55 SIMILAR BUT TO OPPOSITE HAND
6TH FLOOR LEVEL
LOFT FLOOR LEVEL
PLAN AT AA
SCHEDULE OF GIRDERS
6.D. 8 10
7.D. 8 10 54 55 56
BLOCK 4
SHEET Nº 0285¾
Webster Hall's Office
1 Gresham Buildings
Basinghall Street E.C.
Scale ½ inch to One foot

—DETAILS OF STEELWORK IN LOWER PART OF ROOF OF THE LONDON COUNTY HALL.

floor, at which level deeper girders could be used to carry the remaining storeys and the heavy stone stack above the roof. The girders at the second floor level were designed to carry 450 tons on the pair.

In two cases in Block 9 it was found impossible, owing to architectural considerations, to get a girder of sufficient depth to carry the work above, and resort was had to the device of placing a heavy girder at a higher level and slinging a shallow girder from it by means of 8 in. by 6 in. joist hangers to take the weight of one storey only.

The upper girder, which is at the second floor level, has a web 5 ft. deep by ⅝ in. thick, and the top flange is formed of two 6 in. by 6 in. by ⅝ in. angles and four 16 in. flange plates; but so great a width was not allowable for the lower flange, which had to be concealed in the thickness of the wall, and it was therefore decided to build it up of four 6 in. by 4 in. by ⅝ in. angles and four 10 in. by ⅝ in.


NEW COUNTY HALL BLOCK 3
STEELWORK DETAILS SHEET Nº 0453½
UPPER PORTION OF FLÊCHE
All dimensions to be taken at site & work carefully set out
All dimensions given to be verified.
All rivets to be ⅞" dia except where shown otherwise
All field joints to be rivetted wherever possible.
All holes for bolting timber to framing to be ⅝" dia and to be provided where required
HALF PLAN AT G
HALF PLAN AT F
HALF PLAN AT E
HALF PLAN AT D
DETAIL AT BASE OF MAST
Plan of Braced Upright shewing wood Framing.
ELEVATION OF FRAMING
ELEVATION OF BRACED UPRIGHTS
Scale ½" to 1 foot.
Council's Official Architect
Whitaker Hall & Owen
1 Gresham Buildings
Basinghall St EC

STEELWORK AT THE NEW LONDON COUNTY HALL: DETAILS OF UPPER PORTION OF FLÊCHE.

flats; 8 in. by ½ in. gussets hold the joist hangers to the web by means of a piece of 8 in. by 4 in. channel and two pieces of 3½ in. by 3½ in. by ½ in. angle.

The lower ends of the hangers are slotted to admit ⅜ in. gussets, which form part of the web of the first floor girder, and are fastened to the webs of the hanger joists by four 3½ in. by 3½ in. by ½ in. angles.

The lower girder is also a built girder, with ⅜ in. web, 18 in. deep, and pairs of 3½ in. by 3½ in. by ⅜ in. flange angles.

Reinforced concrete hardly finds a place in the building, but has been found convenient in some duct work, and especially in the walls and roof of a storey to be added over a part of Block 12.

The foundations and retaining walls are of interest in this connection, and it may be noted that the top of the London clay was found to be generally about 32 ft. below the surface of the ground overlaid with 13 ft. of ballast, 7 ft. of Thames mud (in which the famous ancient barge was found embedded) and 12 ft. of made ground.

The concrete raft was placed on the top of the layer of ballast, being composed of five layers, each 12 in. thick, of six to one Portland cement concrete, not reinforced, a two to one Portland cement and sand damp-course being laid between the first and second layers.

This article is the substance of a paper read by Mr. E. Lawrence Hall, of Messrs. Whitaker, Hall, and Owen, the consultant engineers for the constructional steelwork of the building, at the Concrete Institute. By courteous permission of the Institute we are enabled to reproduce both article and certain of the illustrations.

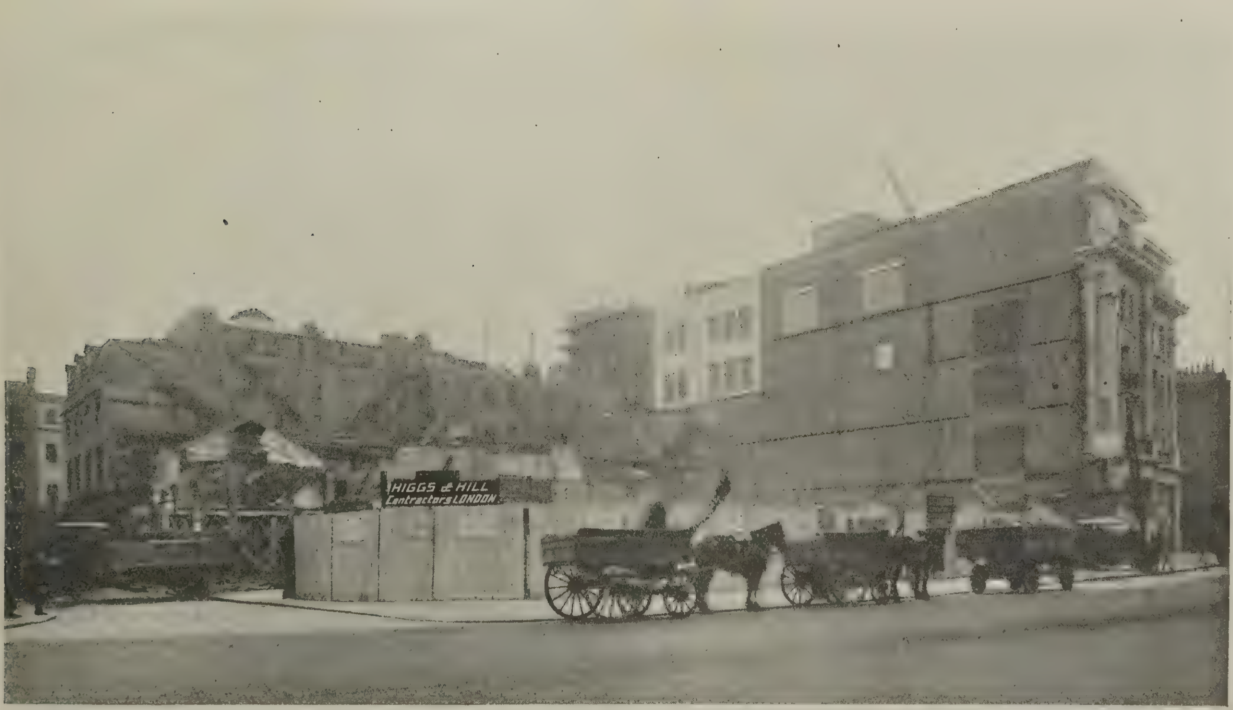
Book Notice

The Story of the Glasgow Institute.

During his two terms of office as president of the Glasgow Institute of Architects and for many years as a member of Council, Mr. John Keppie, F.R.I.B.A., A.R.S.A., took a great interest in the affairs of the Institute, and no one is better qualified than he to tell the story of its first fifty years. The Glasgow Institute of Architects was founded in the year 1868. The first annual meeting was held on October 19, 1869. The Council consisted of the following members: Jas. Salmon, Alex. Thomson, John Burnet, Geo. Bell, John Baird, James Boucher, Campbell Douglas, John Honeyman, and David Thomson, and the following were the first office-bearers: Jas. Salmon, president; Alex. Thomson, vice-president; James Boucher, treasurer; Wm. MacLean, secretary; Geo. Bell, auditor. The number of members on the roll was thirty-one. Among the original members there seems to be only one now living, H. K. Bromhead, who has on many occasions proved a tower of strength to the Institute, especially when the Architectural Association amalgamated with the Institute, in which form, with the addition of a student section, the Institute now exists. It is of interest also to find the name of MacLean as secretary, "a name which still obtains in the person of our present secretary who, although not the real original, is as near as could be, being his brother." Most of the names of the Council are household words in the history of architecture in Glasgow, and all of them have left their mark on the city. The association with the R.I.B.A. first appears in 1870, and the opinion of the Institute is applied for on the subject of the right of property in drawings prepared by architects for works, and it was resolved that an opinion should be conveyed to the Royal Institute that clients have no right to the drawings, and it is not customary for them to be resigned. 1875 was a year of many happenings in the history of the Institute. There were no fewer than thirteen new members admitted, and among the names are Alex. Petrie, who was so long treasurer, Duncan M'Naughton, and T. L. Watson. Alex. Thomson died on March 22, universally regretted by his fellows, by whom he was held in the highest esteem as an architect of genius and an amiable and honourable man. He was one of the originators of the Institute, and held the office of president for two successive years. "By his death," says Mr. Keppie, "Glasgow and Scotland lost one of the greatest practitioners of architecture which it ever possessed. His designs in competition work and his executed buildings gained for him a great reputation throughout the kingdom, and his influence has left an indelible mark on Glasgow architecture. Opinion may vary on the exact position which Thomson occupies, but there is no difference of opinion as to the great culture and thorough searching which characterises his work. He had the genuine Greek spirit for finesse in architecture, whether in the production of a great city church, a west-end terrace, or the humble tenements which enrich his native town, and it can truly be said of him that he touched nothing in his practice which he did not adorn with the sense of his innate refinement and great erudition. I am sure I voice the feeling which is common to us all when, after his death forty-four years ago, I am privileged to pay such respect to this great architect." On June 13, 1919, the constitution of the Institute changed, as it became a "Chapter of the Institute of Scottish Architects."

The Story of the Glasgow Institute of Architects for the First Fifty Years. Two lectures delivered by the Ex-President, Mr. John Keppie, F.R.I.B.A., A.R.S.A. Price 2s. 6d.

The Dickins & Jones Building, Regent Street: Progress Photograph No. 2



Higgs & Hill, Ltd., Builders.

With the courteous permission of the architects, Sir Henry Tanner, C.B., I.S.O., F.R.I.B.A., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A., we have made arrangements to show the progress, month by month, of the new building which is being erected for Messrs. Dickins and Jones, Ltd., in Regent Street. On this job, work is proceeding continuously with a view to as early a completion as possible. The series of photographs which we shall publish will, we are sure, be appreciated by architects for their value as a record of the rapidity with which a big building may be erected under favourable conditions. Last week we gave a view of the site as it appeared on March 4 this year. The above view shows the progress made by March 31.

The Building Exhibition

MR. JOHN W. SIMPSON, P.R.I.B.A., in declaring the Exhibition open, said: It would be idle to pretend that all is well with the industry, but I think we may take some comfort from a comparison of its present state with that which existed at the opening of this exhibition last year. It was on that occasion that Dr. Addison announced his intention to expedite housing by enforcing drastic measures against all who should venture to indulge in what he was pleased to term "luxury" buildings. The result has been what I foretold, the hand of general building has been checked, is still checked, by foolish restrictions and regulations; the increased employment which would indicate rapid progress in housing is not perceptible. There is only one way to enlarge the scope for employment, and that is to free the industry from all Government interference, and encourage every kind of building operation.

For all that, signs of improvement are not wanting; there is a tendency to fall in prices; in most trades the cost of production is reduced, for that best of all reasons, better value given by workmen for the wages received; the understanding between employers and operatives has steadily improved, despite occasional differences. The master builder of the higher type is now prominent, who honestly desires good personal relations with the men and their unions, who does not regard them as mere "hands" for his service, but as fulfilling, equally with himself, functions which are an essential part of a single organisation. To such men the operatives are becoming responsive, slowly at first, for they have long-established suspicions to overcome—memories of a time when little consideration was shown to their grievances—but the leaven is working. The convocation of employers, operatives, and professional men in the Whitley Council is beneficial in this respect, but the machine is rather cumbrous, meetings are infrequent, and it is not always easy for members to attend them. In London we have supplemented it by a Building Industries Board, composed of representatives of the employers, operatives, architects, and surveyors, which can be called at a few days' notice; and it has brought us all into most friendly intercourse. I would like to see such intimate and familiar gatherings established throughout the country, where the difficulties which affect us all can be discussed, without the reserve attending formal debate.

To an audience composed of those interested in the technical processes of building, it is worth while to put the question, "How should a building be paid for?" We all know how it is paid for under existing conditions.

I should like to see the risk of loss removed from the shoulders of the builder, and, incidentally, from those of the operatives. It cannot, for obvious reasons, be borne by the owner. If a man has but £3,000 and wishes to build himself a house, it is useless to present him on its completion with a bill for an additional £500 or £600 which he has not got. On the other hand, the actual cost, whether less or more than £3,000, is the price which he should properly pay for his house. Let us, then, transform our contractor from a speculator in building operations—uncertain whether for all his skill and experience the work he undertakes may not cost him more than he receives for it—into a professional director of building, remunerated for his services according to his ability. Here is a certain reduction effected on the normal margin for profit; for a man sure of remuneration will work for less than he whose gains on one transaction must be large enough to cover his losses on others. The functions of such a director would be pretty much those of the present master-builder, buying material, employing labour, and supervising the building. He would give to the owner an estimate of the total cost, and on his skill and success in not exceeding his estimates his reputation and future employment would depend. We have still the risk of such an excess to deal with, and this I suggest is insurable, and could be taken by a company at a far lower amount than the percentage allowed by an individual contractor. It would be the duty of the director of building to advise the owner as to the amount to insure, and the greater his skill and experience the less would be the margin needed. I would suggest that such insurances might be sound and profitable in-

THE OPENING CEREMONY AT THE BUILDING EXHIBITION.

Left to right: Mr. John W. Simpson, Sir Charles T. Ruthen, Mr. H. Greville Montgomery, Mr. A. J. Forsdike, and Mr. E. Fiander Etchells.

vestments for the trade unions, and the business a direct encouragement to their members to prevent unnecessary cost. I am informed that certain American builders have already become professional directors of building on the lines I have indicated, and that they have made a great reputation by the extraordinary closeness of their estimates to the cost of the work they undertake.

I have referred to the ideals of the employer of to-day as being higher than those of his predecessors. Let us not forget that the operative also is of higher intelligence and education than formerly, and, in my belief, not so much influenced by the question of wages as is generally assumed, and much more by a vague desire for a better standard of existence. The most important thing at the present time is to provide the artisan with an intellectual interest in his work irrespective of its evident utility, some subjective reason which will satisfy his mind with regard to the mechanical operations—laying bricks, covering wall surfaces with plaster, or what-not—in which he is employed.

If it was clear that these processes were part of an ultimate objective of common benefit to all concerned, and that by performing them quickly and well he was contributing to the prosperity of the whole union of workers to which he belonged, I do not doubt that the operative would respond to such a motive with far more energy than he would to that of his private advantage.

By the adoption of piecework properly remunerated, the income of the worker would be limited only by his ability to earn it; by directly associating the unions with the financial profit of building; they would be interested in keeping down cost and discouraging slackness in their members; and by freeing the builder from risk of loss, the interests of the owner would be identified with his own professional reputation. I hope that the ideas I have submitted to you may contribute to a more excellent procedure than at present obtains.

Mr. A. J. Forsdike, speaking on the question of payment by results, said that some of them laid a scheme before the Cabinet only a few weeks ago, one part of which was the payment of a bonus on output. While that part of the scheme was not being supported by the Government at the present time, they believed, sooner or later, it would be to the best interests of the trade that something like it should be adopted. The Government Department must know perfectly well that the shortage of houses was due to their mismanagement. That Department was now doing the best they could to get over the housing difficulty.

Sir Charles T. Ruthen thought it would be wise if the various sections of the building trades met together and arranged for operatives to be paid a reasonable wage for a reasonable day's work.

The ceremony then terminated.

The Stands Aesthetically Considered

By FREDERICK CHATTERTON, F.R.I.B.A.

It is to be regretted that there is still some evidence of tastelessness and even unseemliness in the design of many of the stands this year.

There was a time when the trading firms very wisely commissioned architects of the first rank to design their pavilions, and it is the association of much that was beautiful in connection with the exhibitions of years ago which is markedly absent to-day.

If only a round dozen of the leading manufacturers would set the example and exhibit their wares in stands possessing some architectural qualities there can be no doubt that the movement would become educational, and lead to a general improvement.

Since the main object of the exhibition is to impress members of the architectural profession, it is indeed strange that such a large percentage of the firms represented should deliberately cast away their opportunities of doing so. Very little reflection should suffice to show that no matter how excellent the commodity, it is more likely to attract attention if it is artistically enshrined. And for the same reason a commonplace or vulgar setting will as certainly produce a feeling of prejudice and repulsion.

These remarks, it need hardly be said, are not intended to apply to those firms who are content to make an unostentatious display of their materials or commodities, but to those who house them unworthily in extravagantly conceived kiosks. A tour of the exhibition shows very clearly the diversity of opinion on this subject which is held by the exhibitors, and how varied are their methods of presentment.

In our judgment the stand of Messrs. Fenning and Co., Ltd. (Row E, Stand 84), is among the most successful in the exhibition. This firm has not only set up a structure of intrinsic artistic merit, but in doing so has made the best possible use of the materials it is interested in displaying. The stand is entirely of marble, and the framed openings between its square supports possess both dignity and restraint. It is well thought out as regards choice and arrangement of the different kinds of marble, and the resulting colour effect is excellent.

Another very distinctive pavilion is that of Messrs. S. N. Soole and Son (Row J, Stand 191), which was designed by Mr. E. Bates, A.R.I.B.A. The four square piers at the angles have much character, and are built up of Oregon pine—purposely untreated to show the figure. Effectively contrasting with the natural wood of the supports is the flat enamelled entablature, the architrave of which has a panelled soffit. Good lettering adds materially to the effect of the whole.

The graceful stand of Messrs. Battiscombe and Harris, Ltd. (Row G, Stand 130), has also much to recommend it. Particularly successful are the Ionic columns which, together with the square pilasters at the angles, support the entablature. Carton pierre facsimiles of carved festoon work of the Inigo Jones period are employed in the panels of the square pilasters, and the whole structure is tastefully decorated in two shades with "Keystona" paint.

Messrs. Major and Co., Ltd. (Row F, Stand 102), have erected a very attractive timber hut, which is set in a garden enclosure. The structure itself is well adapted for the display of "Solignum," and its various applications as a preservative decoration for external and internal joinery are tastefuly demonstrated.

One of the most solidly built stands in the hall is that of Messrs. Robt. Johnson and Co. (Row H, Stand 143). This pavilion measures 20 ft. by 20 ft., and cost £700 to erect, without decoration. It is Georgian in character, and has Ionic wood angle columns, which stand free of the walls. On one side there are two entrances and a three-light leaded casement, and the wall opposite contains a segmental

MESSRS. MAJOR AND CO.'S STAND. (ROW F, 102.)

bow window. As will be seen from the illustration, the general effect is a dignified one, and on the whole attains a high level. The columns, however, should have commenced to diminish from a much lower level than they actually do.

There is a stand of rather similar type to the last—that of Aspinall's Enamel Ltd. (Row D, Stand 53)—which also calls for commendation. It possesses considerable distinction as a design, and ornament has been employed with conspicuous reticence.

Messrs. S. and E. Collier's small brick building (Row J, Stand 193) derives all its merit from the really beautiful materials of which it is constructed. As a design it is certainly not without faults. The moulded jamb of the arched entrance, for example, occupies so much of the wall thickness as to leave a reveal of hardly 2 in., while the pointed side windows were obviously set out by an amateur. Nevertheless, the stand has distinct attractions, and the colour tones, texture, and jointing of the bricks themselves are a positive delight. The surface quality, rather than the design, is here the attraction.

A Woman Walks Round

A WOMAN'S point of view at Olympia is more or less self-interested, and she sees the Exhibition only as it affects herself and her immediate surroundings, the adorning of her home or the lightening of her daily labours. The most brilliant constructional inventions leave her, it must be confessed, absolutely cold, implements of the builder's or woodworker's craft move her not at all, but she will stand entranced before the latest effort of the stove manufacturer, and breathe ecstatic sighs over the newest washable distemper.

The burden of her song on these occasions is quite unvarying: "If only I were an architect," it begins, and goes on to enumerate with variations the alterations and emendations to future homes of her designing that would be the immediate result of her tour round the stands.

The essentially practical and economical character of the female mind is not, we suspect, always appreciated at its full worth; charges of short-sighted extravagance have even, within human experience, been made, but as a matter of fact the house-proud woman does not, unless her purse be long, often fall a victim to the alluring glitter of fitments that will require an army of domestics to keep them clean, nor is she in the habit of spending many pounds upon labour or fuel-saving contraptions that may possibly enable her to economise to the extent of about twopence weekly. Not that such are to be found at Olympia, most of the exhibits are obviously the result of most careful and thrifty designing, and one is struck by the alternative models, with prices varying according to finish, that are in many cases obtainable.

Food and warmth have long been established as primary human needs, and the wherewithal for the supply of both is generally the first class of exhibit to attract attention. The last year has marked a considerable advance in cooking and heating apparatus, and a very high standard of efficiency in both is now exacted both by manufacturers and by the public. Enquiries, for instance, after a combined boiler and oven that had in 1920 appeared very nigh perfection elicited the fact that the whole thing had been scrapped, since the reliability of its heat-giving capacity had given rise to doubt, and that an entirely new model of proved satisfactoriness had been substituted. This is an extraordinarily comforting experience for a woman, who likes to feel that manufacturers are men of heart and conscience, and do not offer goods to a guileless public until they are well assured that the article in question actually fulfils in practice the claims made on its behalf.

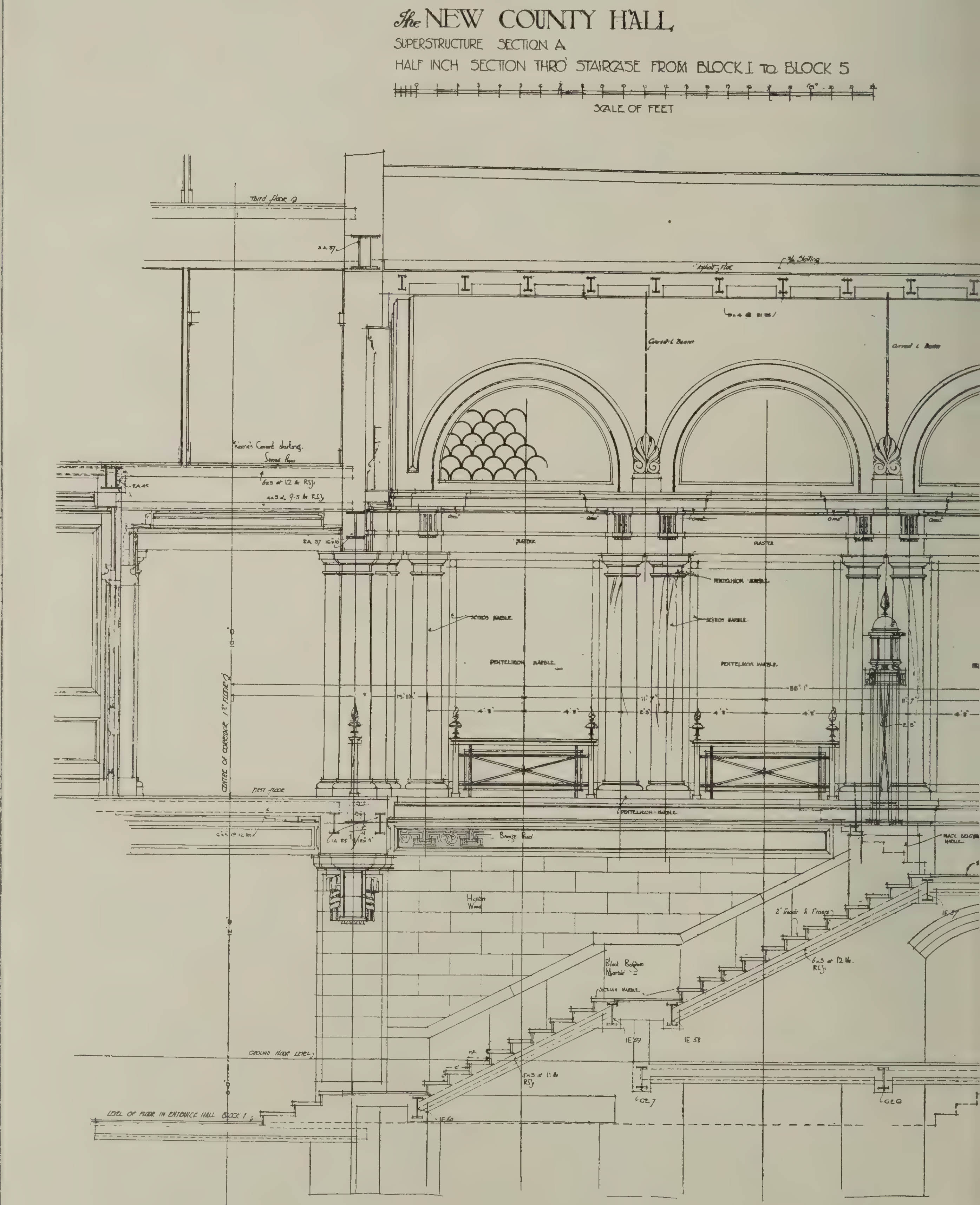
That boiler had, in addition to its romantic history, other notable attractions, furnishing simultaneously from the one fire an ample domestic hot-water supply, 200 square feet of thoroughly heated radiation surface, and a sizable oven crowned with simmering rings. The tendency of modern cooking apparatus is, apparently, to disguise itself as a highly ornamental open fireplace, and Martha need no longer segregate herself in the kitchen, but can, if so minded, dispense with that apartment altogether, preparing and cooking meals in a room that can be transformed at will either into a charming open-fired parlour or into an exceedingly workmanlike kitchen, with range, cupboards, and table complete. It should hardly be necessary to describe the kitchen cabinet which makes such a quick-change effect possible, but in case this never sufficiently to be commended piece of furniture has not yet become universally known, one may explain that, closed, it has a demurely "sitting-roomy" appearance, and is worthy of a place in the most severely-furnished of dining-rooms, but that behind its decorous doors lies hidden a wealth of kitchen apparatus, and flour, groceries, pastry board, crockery, and saucepans—everything, in short, that a cook needs can be found, all ready to hand, in its capacious drawers and cupboards.

There are many who would decline under any circumstances to cook and eat in the same room, and to these a miniature kitchen-scullery, ingeniously planned, will make a strong appeal. Though only 7 ft. square, it contains all essentials, including cabinet, gas cooker, sink, draining-board and plate rack, and a refrigerator for perishables, and would prove an unmixed blessing to the servantless woman. May one in this connection venture to express a hope that architects will reduce kitchen space to a minimum in the small house or flat of the future, relegating it to the position of workroom pure and simple, since its secondary function of servants' sitting-room no longer, for obvious reasons, merits serious consideration?

MESSRS. FENNING & CO.'S STAND. (ROW E. 84.)

Architects' Working Drawings 34.—The New

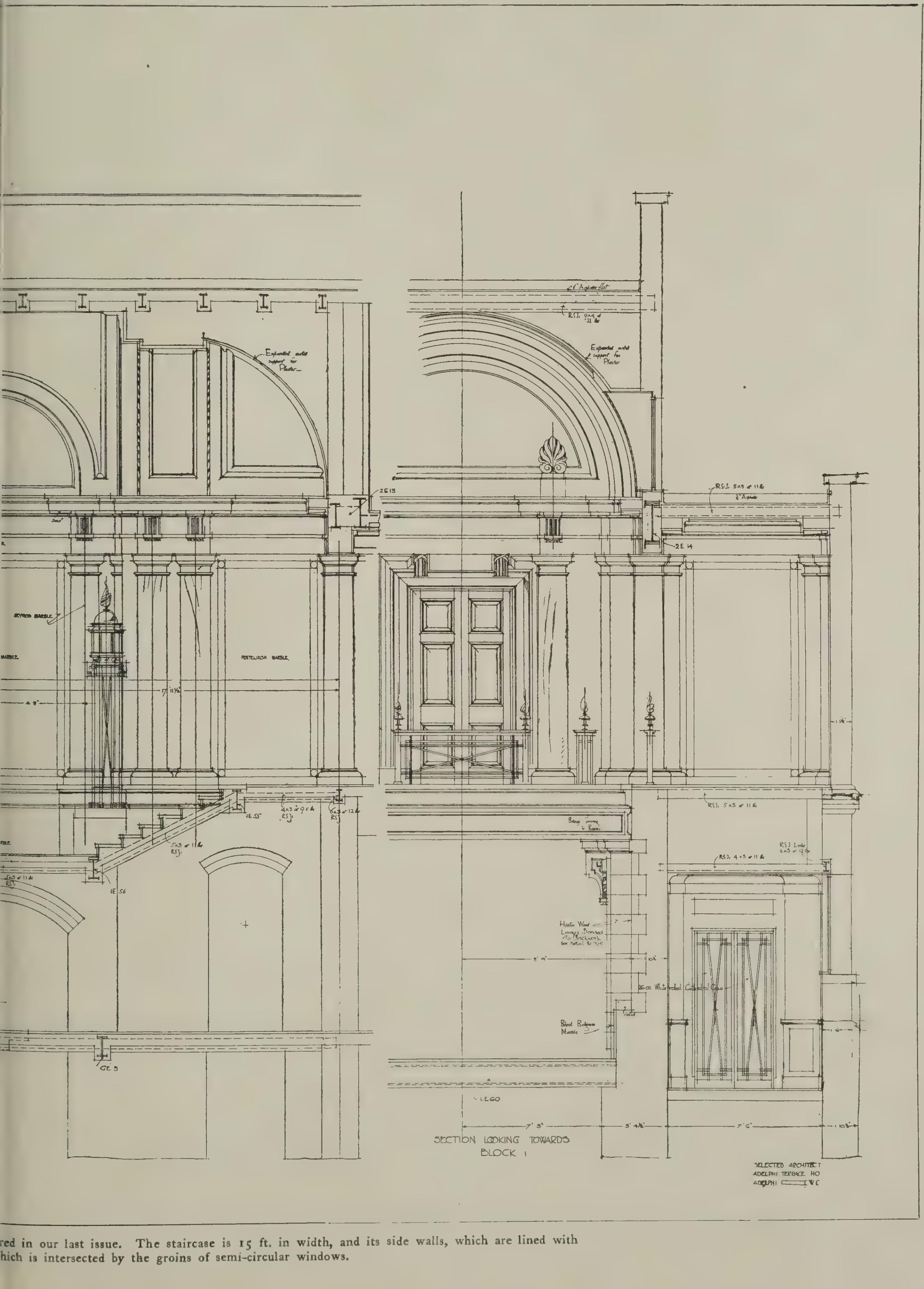
Ralph Knott, Architect, with W. E. Riley, F.R.I.B.



This drawing should be studied in conjunction with the plan of the New County Hall which ap
marble, support a colonnade carrying a barrel-vaulted ceilin

ondon County Hall: Section through Staircase

M.Inst.C.E., R.B.A., Official Architect to the L.C.C.



red in our last issue. The staircase is 15 ft. in width, and its side walls, which are lined with hich is intersected by the groins of semi-circular windows.

The removal of a woman from fireside or cooking range, as the case may be, is notoriously a matter of some difficulty, hence the perhaps somewhat disproportionate interest given to exhibits of this class, but the effort of migration once made, much that is both useful and delightful can be found on stands devoted to less utilitarian matters. It is good to receive assurance that the dampest of walls can be successfully waterproofed internally by the use of a well-known preparation, and secure of perfect dryness, one can revel in the huge variety of decorative materials offered. There is panelling of richest oak, or of walnut exquisitely matched, while wood of a delicately neutral grey offers a novel and beautiful alternative. The ubiquitous wall-board can be seen in endless forms, undisguised, veneered, painted, distempered, or stained with wood preservative in entrancingly loud colours. Whitewood furniture and ordinary boarded floors are susceptible to treatment by this same preservative stain, which provides a finish of rare economy and charm. Nothing more refreshingly cool and clean can be imagined than a room stained and wax polished throughout in a spring-like green, while the jazziest of tastes can be indulged in a riot of blues, yellows, and scarlets. Washable paints and distempers will always retain their popularity, and gleaming varnishes and enamels remain firm favourites in many hearts, despite the undoubted allure of the matt surface.

Of wallpapers much could be said, but comment must be restricted to a general eulogium of their gorgeous colouring, in which the Oriental note is very prominent, and of their various attractive surfaces, in which canvas, leather, silk, or chintz are in turn cunningly simulated.

England is at last rediscovering the cult of the bath, as the ancients knew it, and the unlimited possibilities of delight that a bathroom affords are indicated in the exhibits of the present-day sanitary engineer. Marbles in white, green, and onyx are, we fear, luxuries that none but plutocrats may dream of, and showers and sprays are not for everyone, but good white porcelain is well within reach of the average purse, and white tiles, whether they be the genuine article or merely disguised wall-board, will ensure that delicate cleanliness which is, after all, the first essential.

One is tempted to dwell at length on the endless attractions of door and window fittings, and pivoted casements that can be cleaned from within are worthy of note. A swift descent to jointless floorings reveals a wide variety of colour and design, and more than one stand educates womenfolk in the proper treatment of a wooden floor.

It is impossible to register more than a few outstanding impressions of the exhibition as a woman sees it, but all who aspire to possess beautiful and perfectly conducted homes should hasten to Olympia and gain fuller knowledge for themselves.

E. N. B.

Modern Construction and Equipment

As Revealed at the Building Trades Exhibition

The articles contained in the following pages, written by experts in the different departments, impart valuable practical indications of the present position and future prospects of the industry. A comprehensive series of notices of the exhibits appeared in our special issues for April 6 *and* 13, *and further notices are given in the present number.*

I.—Bricks and Tiles

By A. B. SEARLE

THE visitor who wishes to see the exhibits of bricks and tiles should go provided with a catalogue, and should use it skilfully, or he may miss them altogether. This is the more unfortunate, as some of the exhibits are of really good materials.

Essex bricks, so long the standby of the south country builder, are shown by only two firms, and only one of these confines itself to this class of brick. This is the Mangapp Brick and Tile Works, of Burnham-on-Crouch, who have long specialised in hand-made red facing bricks, which they claim "can be burned to any shade to suit architect's requirements." Whilst we might question the strict accuracy of the claim, it is clear that an architect would have to be very fastidious if he could not pick out one or more shades to suit any work he had in mind. These bricks and tiles are made of washed clay, hand-moulded and burned in kilns, so that they possess all the special advantages of hand-made bricks, and show a warmth of colour and a pleasing variation of tone which cannot be obtained with machine-made bricks. The few roofing tiles exhibited by the same firm have the same welcome characteristics.

W. T. Lamb and Sons, 43 Shoe Lane, London, E.C.4, show a number of bricks made at their Worcester Park, Godstone, and Wanborough works. The number of samples is rather small but the variety is great and includes common bricks, facing bricks, and a few engineering bricks, all of good marketable quality and (as things are at present) at reasonable prices.

The Sussex Brick and Estates Company, Ltd., of Horsham, have a much less ambitious show than usual and content themselves with a few small piers of brickwork. These are ample to show the remarkable qualities of the "Southwater" engineering and sewer bricks made by this firm, if anyone cared to examine the bricks sufficiently closely, but the stand is not in itself very attractive—not even when the highly coloured sketches of ichthyosauriaus are taken into consideration. Rather unfortunate, too, are the pamphlets, bearing the date 1911, which constitute an important part of the "literature" distributed at this stand, because this firm is really of an up-to-date character and has, at last, succeeded after years of opposition in securing the specification of their bricks for sewerage and engineering purposes by the London County Council. Such bricks are a great boon to south-country engineers, as they are much cheaper than the blue Staffordshire bricks usually specified, and yet have a crushing strength and imperviousness which compare favourably with the latter. It is interesting to note that since the previous exhibition this firm has taken over additional works at Crowhurst, near Lingfield.

S. and E. Collier, Ltd., of Reading, have one of the most attractive brick exhibits in Olympia, and their old-world structure of Old English multi-coloured facing bricks is peculiarly pleasing. The warmth and tone of these bricks is well known, and their architectural qualities are set out to great advantage in the Gothic windows and in the mediæval doorway in hollowed bull-nosed bricks which form an integral part of the exhibit.

Sand-lime bricks are shown by two firms of engineers, who supply the powerful presses needed for their production, viz., Sutcliffe Speakmann and Co., Ltd., of Leigh, Lancs., and Herbert Alexander and Co., Ltd., of Leeds. It would be invidious to compare the bricks shown by these firms, especially as the numbers are limited in each case, though sufficient are available to show what good bricks can be produced from sand, blast-furnace clinker, and other materials of a nature quite different from clay. Such bricks have little architectural value—unless they are made from a particularly good sand, when they closely resemble Portland stone—but they are excellent in localities where clay bricks are more costly and where large numbers of bricks are required.

Hollow blocks made of burned clay have obvious advantages over plain bricks, and if well-designed they effect a saving of 40 per cent. in material and at last 50 per cent. in bricklaying, together with a further small saving due to less mortar being used. Consequently, there should be as large a future for hollow blocks in this country as has proved to be the case in the United States and in France, where such blocks have been in general use for nearly twenty years. It is evident that there is an increasing recognition of the value of hollow blocks as more firms are exhibiting them than on any previous occasion, and whilst this is not the time for a critical examination of the relative merits of the various designs, a brief description of the hollow blocks of burned clay may be useful.

The Hemel Hempstead Patent Brick Co., Ltd., of Hemel Hempstead, Herts, are among the pioneers of this branch of the clay-working industry and their blocks have long been used for partitions and floors. These blocks are of the simplest possible type with three parallel hollows, the blocks being 12 in. by 6 in. by 1¼ in. to 12 in. by 12 in. by 8 in. in size.

The Interloc Construction Company, of Harrow-on-the-Hill, use various shapes of

OUR OWN STAND. (ROW E, 87.)

hollow blocks, with a two-hollow block measuring 12 in. by 9 in. by 6 in. as a standard. The special feature of this block is its dovetail, the projection being below, and the hollow, or female portion, above. Similar blocks, 12 in. by 12 in. by 4½ in. are used for floors, the joints being reinforced and filled with concrete, which latter provides the male portion of the interlock.

The Tourba Construction, Ltd., of Holborn Viaduct, London, E.C.1, exhibit Frewen cavity blocks, by the use of which they claim to effect a saving of 20,000 tons of brick material in each 500 houses erected. These blocks have a double set of cavities, and in the standard building block there are four hollows. Such a block closely resembles two simple hollow blocks placed side by side, but one about an inch ahead of and an inch above the other, so as to form a special kind of lock or bond, which gives great strength to the wall, as the blocks interlock both horizontally and vertically. A further feature of these blocks is the continuous nature of the cavity, this being provided by special blocks at the reveals and corners. The cost of construction, when using these blocks is claimed to be particularly low on account of the rapid rate at which they can be laid by relatively unskilled labour, the saving of 50 per cent. in materials, and of 50-75 per cent. in carriage and standing charges.

Stoneware, Ltd., of Dosthill, near Tamworth, exhibit a series of hollow blocks in which the cavities are almost wholly vertical, whereas those in the other patterns mentioned are horizontal. These blocks are 16 in. by 8 in. by 7 in., each being divided into two equal chambers. These blocks do not provide a complete cavity wall, some of the cavities being purposely filled with concrete.

The Moler Fireproof Brick and Partition Co., Ltd., of Vickers House, Broadway, Westminster, S.W.1, and Colchester, show hollow blocks characterised by remarkably small weight, as they are made of a light diatomaceous earth—" moler "—which gives them low thermal conductivity and high heat-insulating power. They are chiefly used in connection with boilers, retort benches, furnaces, etc., as by retaining the heat in the structure they effect a considerable saving in fuel. They are also used in the construction of soundproof partitions.

Roofing tiles are well shown by several firms, the most prominent exhibits being that of S. and E. Collier, Ltd., of Reading, and H. J. and C. Major, Ltd., the Somerset Trading Co., Ltd., and Colthurst, Symonds, and Co., Ltd., all of Bridgwater.

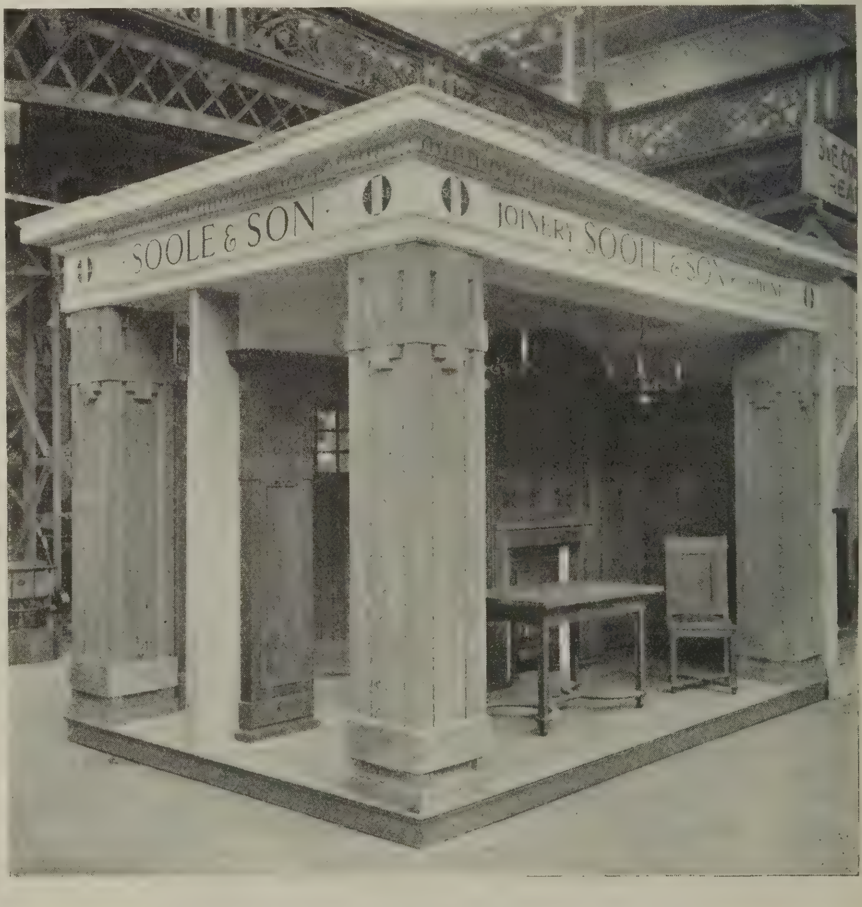
The Somerset Trading Company, Ltd., Bridgwater, have their usual show of tiles, finials, ridges, etc., arranged on the roof and around the sides of a small structure. The uniform red colour of these tiles, their durability and effectiveness have long been known to architects and consequently they need no special description.

H. J. and C. Major, Ltd., Bridgwater, exhibit a similar selection of tiles, and here again the patterns and quality of the exhibits are so well known as to make description needless, Major's tiles being used extensively throughout the British Isles as well as abroad.

Colthurst, Symons and Co., Ltd., Bridgwater, have a good show of roofing tiles—similar to those exhibited for many years past. Like the products of the two firms just mentioned these tiles are noteworthy for their large size, strength, good and uniform colour, and the effectiveness with which they resist both wind and rain.

S. and E. Collier, Ltd., Reading, show tiles of an entirely different character, their exhibit being of the old-fashioned, handmade, farmhouse tiles with the beautiful broken lights which have for so many years made these tiles attractive to architects and house-owners. The Reading clays are not particularly suitable for the very large tiles made in the Bridgwater district, but for the smaller " plain tiles " they are unsurpassed where warmth of colour and variety of shade are desired.

There is a marked scarcity of tile merchants (as distinct from manufacturers), but Gordon and Alexander, of Grafton



MESSRS. SOOLE AND SON'S STAND (ROW J, 191.)

House, London, W.1, show a few roofing tiles of medium quality, but make no attempt to display them to advantage.

Glazed tiles—both for walls and floors—are shown by only four firms, and of these two show them as incidental to bathrooms and sanitary appliances. The best independent exhibit of glazed tiles is unquestionably that of Carter and Co., Ltd., Poole, Dorset, whose stand is beautiful in several respects. It contains a large portico of glazed terra-cotta ("ceramic marble") in a light neutral tone and with an almost matte surface, the interior walls and floor being furnished with glazed tiles. Some particularly effective hand-painted tiles, after the Dutch and Persian styles, are used as a background to a fireplace, and by their light and delicate tints add considerably to the beauty of the other exhibits. The same firm also exhibit dull black tiles of a quality we have never seen surpassed, and a sundry collection of lustre tiles which are so arranged as to catch the moving lights and shadows in a most entrancing manner.

Doulton and Co., Ltd., Lambeth, exhibit a fine series of glazed tiles for bathroom walls, etc. They show no colours or patterns of special novelty, but maintain the high standard of quality for which they have been known for so many years.

The Farringdon Works and H. Pontifex and Sons, Ltd., Shoe Lane, London, E.C.4, also exhibit some excellent glazed tiles for bathrooms, etc. These are of the usual faience, well made, of pleasing colouring, and in every way suited to the purpose for which they are used.

Gordon and Alexander, Grafton House, London, W.1, also show a few floor tiles of good quality.

Glazed bricks are only shown in quantity by one firm—Stanley Bros., Ltd., Nuneaton—whose brilliantly coloured stand attracts the eye from several parts of the exhibition. The quality of the glazed bricks made by this firm has long been known and regular visitors to the Building Trades Exhibition for the past ten years or more are all familiar with Stanley Bros. exhibit.

The general impression created by the brick and tile exhibits as a whole is disappointing. In the first place they are not sufficiently numerous, and in the second place they are too scattered to be imposing. In several instances it is only too easy to pass a stand without noticing it, and whilst there is always some risk of this in an exhibition where everyone is clamant for attention, the remark is specially applicable to the brick exhibits.

Anyone visiting the exhibition might easily reach the unwarranted conclusion that bricks are being rapidly displaced by other materials, though this is far from being the case. It is, of course, open for the brick manufacturer to argue that the sale of bricks is largely a local matter and that there is therefore no need to exhibit them in London in large quantities, but in such a case there should be a concerted exhibit by the Brick Manufacturers' Association or some other body acting in the interest of the brick trade as a whole.

Roofing tile manufacturers from Reading and Bridgwater are much more alive to their interests in this direction, but those from other districts appear to be woefully lacking in this respect, and the industry as a whole, as well as the individual firms concerned, would be greatly benefited if more tile manufacturers had exhibited their goods. This is particularly the case with regard to glazed tiles, in respect of which, however, the fact that so many manufacturers exhibit at the Industries Fairs held from time to time under Government auspices must be taken into account.

In the general tendency in various industries to reduce the quality of the goods produced, it is some satisfaction to be able to report that as far as the bricks and tiles at the Exhibition are concerned they show no deterioration whatever in quality.

2.—Concrete Construction and Machinery

UNDER the two headings, "Concrete Building Blocks and Machinery" and "Concrete Mixers," there were in the 1913 catalogue of the Building Exhibition at Olympia no fewer than eight entries—four in each section. In this year's catalogue, under the revised and comprehensive heading "Concrete Construction, Machinery, and Plant," the entries are fifty. We take it to be a fair inference that the present-day popularity of concrete construction, relatively to its position in 1913, may be roughly indicated by the comparison of 50 to 8. On the other hand, whilst in 1913 there were six entries under "Brick, Tile, and Pipe Making Machinery and Plant," there are this year only two. Of course, such statistics do not prove much, but they are certainly a rough indication of the trend of circumstance. They suggest very strongly that the early prejudice against concrete construction, and against concrete-mixers, and more especially against block-making machinery, has completely yielded to the imperative demand for houses; and a further factor contributing to the rise of the one form of material and the depression of the other has been the nearer approach of the two towards equality in cost.

Other advantages of concrete blocks and bricks, as compared with clay bricks, are the greater quickness with which the concrete goods can be made, the facilities for making them on the spot where they are to be built (hence a considerable saving in cartage), and the decidedly superior speed with which concrete blocks and bricks can be put together to form a building.

Further factors of popularity which help to give concrete construction a greater vogue than it has ever had before are certain improvements in texture and colour. Instead of the deadly dull flat drab surface which persons who were certainly not hyperæsthetic found positively painful, we now get blocks showing patterned surfaces and a cheerful hue-warm brown, for instance, instead of cold grey or depressing mud-hue. One firm is good enough to tell us (though, to be sure, it is at this time of day no trade secret) how to impart these cheerful colours. For red you mix with the dry cement red oxide of iron; for yellow, yellow ochre; for blue, ultramarine; for green, oxide of chromium; for black, black oxide of manganese; for white, powdered chalk; for pink, crimson lake. These recipes are given in a leaflet called "The House of Ideas in Concrete" (published by R. G. Whitaker, Ltd., Kingston-on-Thames, in which moral maxims (possibly machine-made) are intimately mixed with business announcements. For example: "Study the pallet-cost every time: that is where the money goes," and "Stability and Ability—these are partners of Success." Which nobody can deny with respect to the latter example of laconics, although the former might easily become a theme of controversy.

It is quite evident that inventors have been strongly attracted to this subject of block-making machines, and that the competition indicated in our opening paragraph has been, perhaps, in accordance with the axiom, "good for trade," and more certainly has been good for concrete machinery in general, in which, while we could perceive no startling novelty—that is to say, no machine that was as a whole new in type and in principle—we observed several improvements in details—small matters which help on the evolution of machinery, and lead on towards ultimate perfection, but do not greatly impress the memory of anyone but a prospective purchaser.

No doubt the block-making machines were in every instance more interesting to the builder, who has to work them, than to the architect, whose chief concern is with the product. He is a little anxious about the block, brick, or sheet being of agreeable form, colour, and texture. He is rather dubious on one point, in which economy seems rather in conflict with scale and proportion. Within certain limits, big blocks imply quick building, but a small house built of big blocks is not pleasing to the eye accustomed to the standard brick, which, by the way, is held by many to have lost the more graceful proportions of the bricks beloved by Wren, the size having been enlarged, they say, in the interests of economy in laying, just to save a course or two in the height!

Then, again, the architect is very eager to be reassured that the concrete wall is hygienic—that it behaves well under extremes of temperature, and, above all, that it is waterproof. This last consideration has received a vast amount of attention in this country and abroad, and at the present Exhibition there are several very ingenious demonstrations of the imperviousness of certain waterproofing processes. According to bent of mind, some visitors will be vastly impressed by an array of scientific apparatus (they may easily spend a whole day examining the display of the Cement Marketing Company at Stand 110, Row F), others will be of the ancient order of practical-minded persons who hold that "the proof of the pudding is in the eating," and will therefore take more encouragement from the exhibition of tanks and banks and basins that refuse to leak under the strongest temptations, and under powerful pressure that seems almost immoral. The waterproofing agent emerges triumphant from both tests. It is quite exhilarating to note the energy of the science demonstrators, whose enthusiasm is only equalled by their courtesy. Any person refusing to respond sympathetically to this scientific ardour, or declining to be convinced by the utter and inveterate leaklessness of the water-containers and repellers, might surely be credited with a hopeless scepticism that, like good cement well waterproofed, hardens

MESSRS. BATTISCOMBE & HARRIS'S STAND. (ROW G, 130.)

with age and grows ever more and more impervious to conviction.

It is not only to the newer firms that one looks for novelties. Some of those that were pioneers in the concrete-mixing and blockmaking machine industries show at least as much enterprise as recent comers. Winget, Ltd., for example, who are quite extraordinarily alert in anticipating developments and meeting requirements. This firm show an extensive range of machines, some of which we do not remember to have seen until now, and they are giving daily demonstrations on half a dozen different types of blockmaking machines, some of them driven with benzol or petrol, others by electricity. A novelty in their "chain-spade" mixer, for mixing both wet and semi-dry concrete, has been fitted with an elevating hopper, by means of which the machine can be fed from the ground. The Winget Standard blockmaking machine will in three and a half days make you sufficient blocks and slabs for a two-storey cottage of average dimensions.

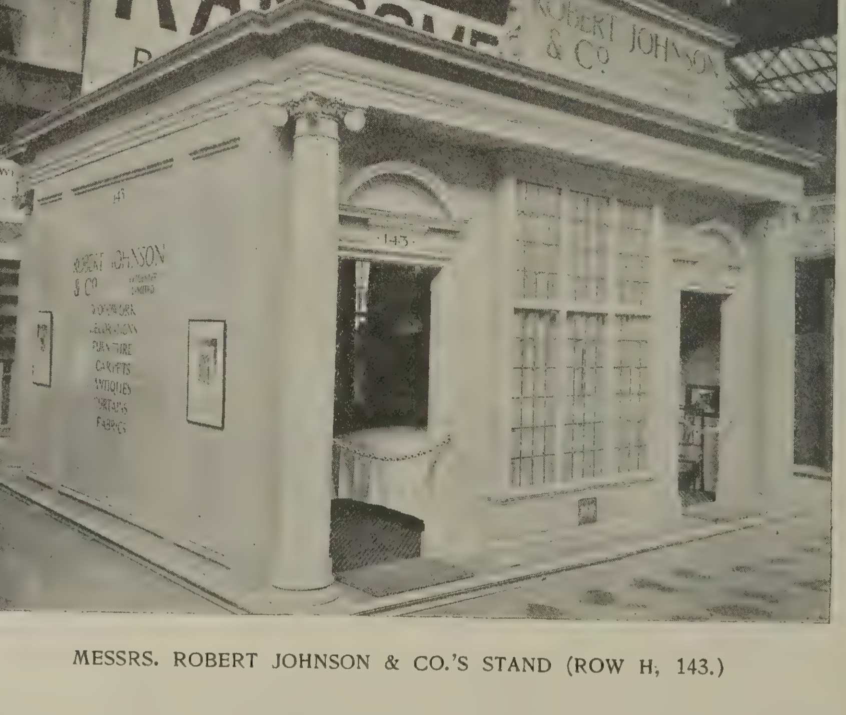
This is by no means the only solution, or partial solution, of the housing question referable to materials having, like reinforced concrete, a cement ingredient and a metal reinforcement. There is, for example, the "Exmet" reinforcement (Row 9, Stand 137) for brickwork, concrete-block work, partition slab, etc. The Expanded Metal Co. show also their steel sheet reinforcement for concrete, which has been much employed during the past thirty years for foundations, walls, floors, roofs, bridges, culverts. At this and at one or two other stands we find very strikingly illustrated, whether by photographs or drawings or by actual objects, the extraordinary range of adaptability of reinforced concrete culverts, sewer, and other pipes, for instance, of forms and calibres that could hardly be made from less tractable material. There is, further, the system put forward by Messrs. Johnson's Reinforced Concrete Engineering Co., Ltd., who give, in a most useful leaflet, which can be had at their stand (Row H, No. 47), a specification and particulars of reinforced house construction on a scheme that ensures rapidity of erection, all the details being standardised. The posts and beams are reinforced with steel rods wrapped round with steel wire and secured on the firm's Keedon system, and the external walls have a rough-cast surface of quite artistic effect. That is the chief merit of these building exhibitions—that one can see the effect of a given treatment without extensive and expensive journeyings; and at the same time one can examine and compare the effects of different materials. The same firm show, of course, samples of their steel-wire reinforcement, which has been for many years in use for the formation of concrete floors, roofs, walls, tanks, culverts, roads, etc.

Another suggested solution of the housing problem is that offered by the British Fibrocement Works, Ltd., who claim that buildings can be erected at a price within the reach of all by the adoption of "Fibrent" sheets and slates, which are easily fixed and require no further attention—especially not that of the painter or of the man with the tar-brush.

As to concrete-mixing machines, it is almost superfluous to say anything. They are here in plenty—a proof of the now general recognition that the machine produces an infinitely more homogeneous "mix" than can be produced by even the most careful workmen. Messrs. Ransome Machinery Co. (Row K, Stand 194) we notice are in evidence with a fine display of up-to-date mixers, among which is included a new special light-weight mixer with a batch capacity of about eight cubic feet. Several hand and power mixers and block-making machines are shown by Henry Wilde, of Westminster, at Stand 83, Row E.

With respect to blocks and building slabs, it can only be said that their name is legion, and that it is not possible to mention them in detail here. Some of them, like the Mack partitions (J. A. King and Co., Row F, Stand 103) are so well known as to render description superfluous; while others should be examined rather than described. This article is not intended as a detailed description of the cement, concrete, and reinforcement exhibits, but merely as a general survey. Detailed accounts of some of the exhibits will be found under separate headings in this or in preceding Special Exhibition Numbers of this Journal.

An excellent feature of the Exhibition this year is the grouping of the machinery exhibits, which are mostly to be found in the annexe. If only this system of arrangement could be applied generally to the Exhibition, the gain in convenience would be considerable.



MESSRS. ROBERT JOHNSON & CO.'S STAND (ROW H, 143.)

3.—Gas Equipment

A FEATURE of modern building practice is the close connection which now exists between architects and builders and the gas industry. This is apparent to the most casual observer visiting the Exhibition, where all kinds of gas equipment are exhibited by a number of firms, including some of the largest gas appliance manufacturers in the kingdom. The gas industry indeed has actually gone farther than the mere designing and construction of gas equipment for domestic and other purposes. In recent years it has propounded a theory in building construction, now accepted by many prominent architects and builders as an advantageous one from the viewpoint of building economy, owing to the marked saving in labour and material; while other advantages, such as the provision of increased floor space on the same ground area, convenience, fuel economy (national and individual), and saving of domestic labour, are also obtained.

The "Built-in" Gas Fire.

I must apologise for referring to what is now beginning to be fairly well known as the economy flue and "built-in" gas fire system, because details of this have appeared in technical journals from time to time. I only do so in passing, because any system which will provide increased comfort in the home, while, at the same time, reducing building costs, is naturally of supreme importance.

The Ministry of Health have erected a pair of demonstration houses on Site No. 11 at Acton Wells, in which gas-heating is installed on the "built-in" gas fire principle, with no coal fire flues or chimney breasts except in the living-room, gas fires being fitted in all other rooms with ventilating shafts constructed within the thickness of the walls. The ground and first-floor plans are illustrated (see Fig. 1), and the houses should be well worth a visit by architects and builders, who will also find gas installed for lighting, cooking, wash-boilers, and water heating.

Among the many new methods of construction shown at the Exhibition, this quite noteworthy one may be seen, no less noteworthy because it partly originated in the brains of gas engineers. The Nautilus Fire Company are showing an excellent demonstration of this system with a Davis N.H. "built-in" gas fire and a cast-iron gas mantel register complete, fitted to ventilating shafts composed of concrete blocks, containing within them both the necessary opening for the removal of the products of combustion and a separate one for the sole purpose of ventilating the room, the outlet from the room into this being made at the ceiling level. The blocks are constructed to build into—and form part of—the wall. Suitable terminals to complete the shafts on the roof are also shown.

It is also possible to fix the "built-in" type of gas fire to a single shaft large enough for the removal of the products of combustion and for ventilation or with two separate and distinct shafts—one for the products of combustion, and the other solely for ventilating the room, but both built close together in the same wall. The latter is the method adopted in the houses at Acton Wells. It is perhaps pertinent here to indicate how far this "built-in" gas fire system has progressed beyond the theoretical and experimental stage. It has been adopted for large numbers of houses that are erected, or are being erected, at Croydon, Guildford, Manchester, Liverpool, Ormskirk, Romford, Nottingham, several London County Council schemes, Leith, Hampstead Garden Suburb, Birmingham, Shrewsbury, etc., etc. The saving in cost of construction is variously estimated at from £30 to £60 per cottage, or alternatively £10 or more for each room in which the "built-in" gas fires are installed.

The Davis Gas Stove Company show two examples of their standardised gas-heated wash-house boilers (accepted by the D.B.M.S.), which have been installed in a large number of houses. The "N.H." of ten gallons capacity is a very high-class article containing many excellent features, which are the result of careful study and the combined experience of representatives of gas companies (who deal direct with the users) and experts in the stove manufacturing business. The "Item 30" (of either eight or ten gallons capacity) is designed to meet the demand for a less expensive but serviceable and exceptionally strong article. The loose wooden reversible table lid supplied with either of these boilers is a recent and popular innovation in such appliances, as it takes the place of the old hinged metal lid. It can be entirely removed, giving easy access to the boiler, and can be used as a drainer or to carry hot clothes for rinsing purposes.

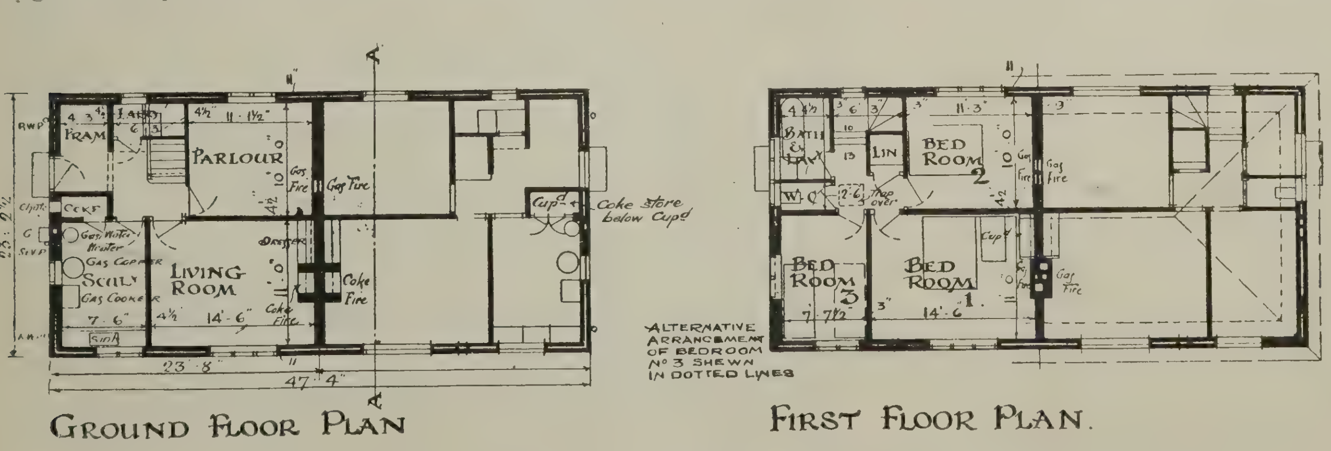
As regards water heating for housing schemes, a type of apparatus worthy of note, known as the "Industria," is shown by Messrs. Ewart and Son. This machine is of the open, gravity type, for fitting in cases where the bath is on the same floor as the scullery, and consists of boiler and storage cylinder in one and the same apparatus. The special feature of this machine is the rapid provision of the small quantity of hot water—a pailful or so—which is needed by a housewife a number of times a day, with a very low consumption of gas. The water in the small boiler is heated without circulation taking place into the storage cylinder above until the gas has been burning a few minutes, but when the temperature rises sufficiently a valve comes into action and circulation from the boiler into the cylinder takes place, when the whole of the water is heated, providing sufficient for a good hot bath.

The "Industria" and other machines of a similar type—for instance, Parkinson's "New Cottage," which is made in either the open (gravity) pattern or the sealed pattern, for use where the bath is on an upper floor—have already been installed in a large number of cases, many hundreds being fitted in London and its suburbs.

An excellent selection of geysers of all sizes, from the large automatic type suitable for supplying one or two baths and/or a number of lavatory basins, down to the midget for use over a sink, lavatory basin, or for dentists' use, gas circulating boilers, and combined gas boilers and storage cylinders are also shown by several makers, including Thomas Potterton and Son, Ewart and Son, the Davis Gas Stove Company, and the Hurry Water Heater Company.

Equipment for Housing Schemes.

The exhibiting firms have given a prominence to equipment for housing schemes which in the past would rightly have been considered ridiculous, but they are justified by the fact that the installation of gas apparatus in even what may be spoken of as working-class houses has increased by leaps and bounds in the past few years. The following figures regarding housing schemes, which I quote by permission of the Gas Light and Coke Company, London, speak volumes in this direction. Five thousand three hundred and sixty houses and flats have been dealt with, and in these premises gas will be installed for the following purposes: Lighting, 4,563 cases; a gas cooker in every one; 1,570 gas hot-water installations, with supplies to bath and sink; a number of gas wash-boilers; and 3,899 "built-in" gas fires,



GROUND FLOOR PLAN

FIRST FLOOR PLAN.

FIG. 1.—PLANS OF HOUSE AT ACTON WELLS, SHOWING ARRANGEMENT OF GAS INSTALLATION.

while in every case the premises will be fully carcassed with gas pipes.

As such comprehensive gas installations are being fitted for housing schemes, it becomes increasingly certain that the old standards for piping houses, which builders and indeed even gas companies themselves considered satisfactory in the past, are now hopelessly inadequate. In future, therefore, houses should never be erected without a complete piping system being installed while the premises are in course of erection. Gas pipes of suitable sizes (allowing a safety margin on the large side) should be run to every possible position in which gas appliances or fittings may be required, either now or in the future, in order that subsequent extra expense and disturbance of both premises and tenants may be avoided. The British Commercial Gas Association, 30 Grosvenor Gardens, Victoria, S.W.1, have published a pamphlet entitled "Standard Instructions for Preparation of Specifications for Gas Piping," and would, no doubt, be pleased to forward a copy to any interested architect or builder, but it may also be found in No. 23 of "Specification," 1921 edition.

Need for Comprehensive Installations.

The wide range of gas appliances shown at the Exhibition emphasises the soundness of my plea for the complete carcassing of all new houses with gas pipes, but I will quote an actual case of inadequate carcassing which recently occurred, and the details should prove of great interest to architects and builders who have plans under consideration.

A large company decided to erect a garden city, and because the public demand for houses was so great, committed the error of believing that there was no need to equip the houses with gas to any extent; therefore pipes were run to cooker positions only. The local gas undertaking, on being asked to run the necessary mains, pointed out that the amount of gas likely to be consumed would not make it a commercial proposition, and that the occupiers would surely desire to make more use of gas than just for cooking purposes.

As a result, the company concerned endeavoured carefully to ascertain whether this statement was correct, and asked their clerk of the works, who had shown prospective purchasers over the houses to give details of his experiences when doing so. He said "he was tired of endeavouring suitably to reply to the questions which every intending purchaser asked—'Is there gas for cooking, or heating, or for providing hot water?'—and that these prospective occupiers were always disappointed that no proper provision had been made for these essential services."

The company were so impressed that, though twelve houses were already *completed* and *decorated*, they had the floor boards taken up—the decorations naturally suffering thereby—and installed comprehensive gas installations. It is perhaps unnecessary to add that in all other houses being, and to be, erected on this estate provision is now being made for gas cooking, heating, and water heating.

A good selection of gas cookers may be seen at the Exhibition, notably the Davis Gas Stove Company's "Slot" cooker and their latest pattern for better class houses. The Stimex Company are also showing a number of their cookers with externally heated ovens.

I have already referred to domestic gas water heating, but it must not be forgotten that the use of gas for water heating has gone far beyond this stage, as very large installations are now fitted in institutions and also in factories for trade and other purposes. An installation worthy of note was recently carried out by Messrs. Thomas Potterton, who show their No. 20 "Victor" boiler at the Exhibition. At Beckenham Athletic Ground it was proposed to heat the water for the sports pavilion by solid fuel, but the authorities became convinced that gas would better serve their purpose from the viewpoints of convenience, ease of control, and saving of labour. As a result sixteen No. 20 "Victor" gas boilers were fitted in two batteries of eight. These heat two storage tanks with a capacity of 600 and 500 gallons respectively, the hot water being used for supplying a number of lavatory basins and shower and plunge baths, while one boiler and thirty gallons storage alone may be used when required for caretaker's purposes only.

The Davis Gas Stove Company show two very high-class gas fires suitable for rooms furnished in "Period" styles: the "Georgian" and the "Carolean," both of which are in armour bright finish. They also show a good selection of gas fires of simpler type in plain black finish, which go well with any ordinary scheme of decoration.

Prepayment Check Meters.

A novel feature connected with the installation of gas fires in hotel and boarding house bedrooms is the use of a new prepayment check meter so that the proprietors may be suitably recompensed for any gas consumed, while their guests may use the gas fires when they so desire. Numerous devices have already been tried with more or less success in order that not only shall the amount of gas consumed by the occupants of a room be known, but that it shall be paid for in advance, in order not to complicate matters when the guest is leaving. The latest appliance to meet this demand is a prepayment meter of a capacity up to fifty cubic feet per hour, more than enough for the largest gas fire. It is very much smaller than any similar apparatus previously obtainable, and is usually fitted at the side of the hearth enclosed in a small neat box. The meter and box complete are being let on hire by one large gas company at a rental of 2s. 6d. per quarter, and there is a very great demand for them.

Fig. 2 is a photograph of a bedroom in a Hampstead boarding house, clearly indicating the neatness of the apparatus. The meter in the cupboard is operated by inserting shillings in the slot, and the proprietor can purchase his own padlock and collect the money out of the box at suitable intervals. He can also set the meter to give whatever amount of gas for each shilling he desires in order to allow a suitable margin of profit to cover the cost of installation and other upstanding charges, the gas consumed having, of course, been registered against him on his own main meter.

I commented at the commencement of this article upon the close connection which now exists between architects and builders and the gas industry, and I may well finish on the same note by remarking that the Building Exhibition shows that they are all working towards the attainment of one common end; that is, the emancipation of women from what may well be termed domestic drudgery.

As far as the gas industry is concerned, I have no hesitation in stating that the equipment of new houses with the gas domestic service appliances which may be seen at the Exhibition will not only free our woman-kind from the dirt, dust, and labour which accompany the use of solid fuel, but will also enable them to look far more lightly upon the domestic servant problem and, what is perhaps even more important in these disturbing times make them independent of strikes, and the all too-frequent vagaries of King Coal. C.

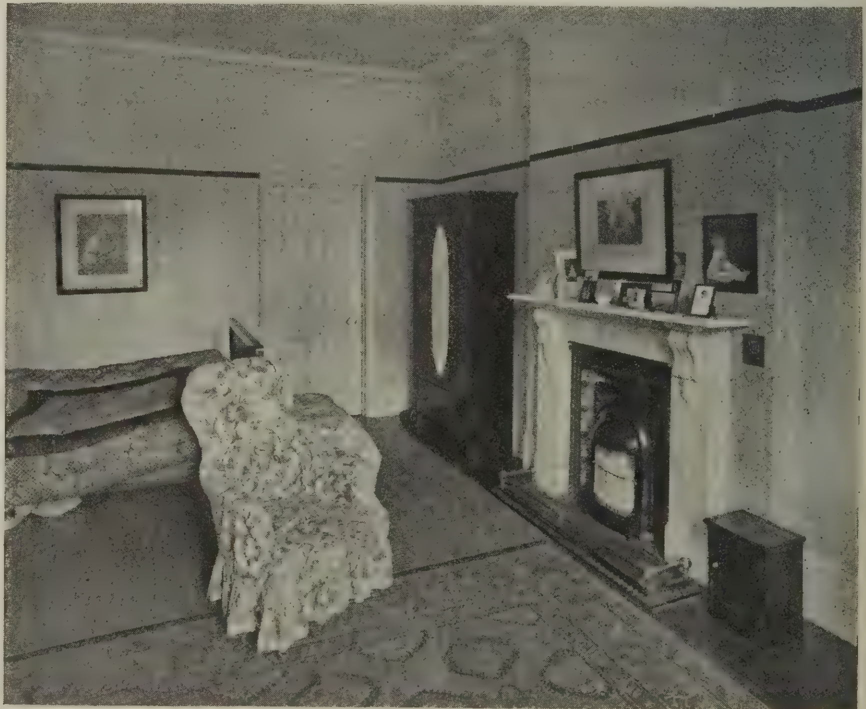


FIG. 2.—PREPAYMENT CHECK METER IN HAMPSTEAD BOARDING HOUSE.

4.—Electrical Equipment

By S. M. HILLS, A.M.I.E.E.

WHATEVER may be the difficulties of industry to-day, there is but little doubt that electricity is destined to have considerable bearing on the domestic and industrial conditions of the future. The architect naturally has to plan with due consideration to future developments and so to design buildings that they will not only permit of the use of modern appliances, but that they may also prove convenient and suitable for the use of still more modern appliances in the near future.

It has often been the complaint of those engaged in the electrical industry that the average architect is very difficult to approach regarding new equipment, and if this complaint be justified by facts, it is very surprising that better use has not been made by electrical manufacturers of the opportunity provided by the Building Exhibition. Here, surely, was a favourable opening to bring before the architect and the builder new equipment and materials. Unfortunately, in the main that opportunity seems to have been allowed to pass on this occasion. Of course the space at Olympia is naturally limited, and it would not be possible to have a miniature electrical exhibition at a Building Exhibition, because building, in a sense, embraces so many branches of trade. Still, there are notable branches of the electrical industry which one missed, a factor which, of course, reflects still more credit upon those electrical firms who did take part in the exhibition. Items which are missing and which would have interested the architect are such things as wiring systems, both surface and concealed, lighting fittings, shades and glassware, electrical kitchen appliances, etc.

Lifts are a modern convenience now looked upon as a necessity in offices and factories, and often called for in the better type of residential house and flats. The electrically operated lift offers the advantages of silent operation, automatic working, etc.

Messrs. Waygood-Otis, Ltd., occupy Stand 113 in Row F, which is devoted to a display of lifts of various types, both electrical and otherwise. A working model is shown of a fully automatic push button controlled electric passenger lift, and there is also, away from the stand, a Waygood-Otis full-size passenger lift for conveying people to and from the ground floor to the gallery. An interesting exhibit from the electrical point of view is a switchboard showing various Waygood-Otis electrical lift appliances and accessories.

At Stand 62, Row D, Messrs. the Medway Safety Lift Co., Ltd., are exhibiting an interesting series of electric lifts, and it is pleasing to note that since the war this old-established firm have entirely reorganised their works and brought up to date their various designs for lift gears, controllers, gate-locking, and inter-locking appliances, etc. The apparatus shown comprises a complete electrical passenger lift fitted with a dual control system enabling the lift to be operated by a passenger employing push-button control, or by means of a switch controller operated by a lift attendant travelling in the cage. The gate-locking gear fitted to this lift is claimed to be tamper-proof. There is also an electrical service lift, again fitted with push-button control, and a hand-operated service lift for use in private houses, flats, restaurants, etc. This hand-operated lift is fitted with a special self-sustaining gear, thus avoiding the necessity for the use of the old-fashioned and cumbersome separate brake rope.

INTERIOR OF BEAVER BOARD CO.'S STAND. (ROW E 94.)

Increased transit facilities have naturally led to a desire for town conveniences in country homes, and this has led to the increasing demand for electric lighting in country houses remote from an electrical supply, a demand which has been met by the provision of petrol or paraffin engine-driven electric lighting sets. The convenience of electricity need by no means be confined to lighting in such cases; it merely requires the use of a little larger set to obtain electric power for occasional heating, for cooking, or for operating farm appliances, such as butter making machinery, corn crushers, laundry work, pumps, or for driving a lathe for the repair of farm implements, and in the case of the country house for driving a lathe for effecting motor-car repairs.

At Stand 185, Row J, Messrs. Cliffords, Ltd., are demonstrating the "Clyford" oil engine set, which consists of an oil engine and dynamo, together with the usual battery of accumulators. If desired, however, the battery can be dispensed with and extra heavy fly-wheels fitted to the engine. In this set the dynamo and engine are on one bed-plate, coupled together by a flexible coupling. Various sized engines are supplied up to 15 b.h.p., the smaller sizes running on kerosene or petrol and the larger on light crude oils. Another type of set is also made consisting of a 2½ b.h.p. engine running on petrol or paraffin, coupled by a belt drive to a dynamo. In this case the engine, when not required for accumulator charging, can be employed for driving power appliances by means of a belt drive and shafting.

Electrical lighting sets are also exhibited by Messrs. Fredk. Sage and Co., Ltd., at Stand 17a, Row B. Two sizes of sets, the "Minor Domo" and "Major Domo" respectively, are made by this firm, the former having a capacity of one kilowatt and the latter of two kilowatts. These plants are suitable for operation through the usual battery or direct, but it is usually advantageous to have a battery, as by this means, provided the battery is kept charged (as it should be), electricity is available when needed without the trouble of making a special journey to the engine-room to start up the set.

It is a mistake to think that the use of a small electric lighting set necessitates the employment of a skilled engineer. Such is not the case, any more than the owner of a motor car requires to employ a chauffeur. Where a chauffeur is kept he can easily operate and look after a lighting set, and similarly anyone who can ordinarily run his own car without a chauffeur can be quite confident of his ability to manage a small lighting set.

Domestic appliances shown in the form of lighting, heating, cooking, and cleaning apparatus are confined to two firms, who show heaters and cookers, and to one that displays electric suction cleaners. At Stand 223, Row L, is to be seen the "Eco-Tricity" combination electric cooker, an ingenious appliance which is a combination anthracite or coke stove and electric range. It essentially consists of a coke stove, the heat from which is utilised to provide a hot water supply, to warm a boiling top mounted on the stove, and to circulate heated vapours around a cooking oven. In addition, electricity is called upon to provide supplementary heating (if needed) for the oven, and to operate a grill and boiling plate.

A larger size appliance provides for the use of the coke stove to heat radiators in the living-rooms of the house. In summer (unless the coke stove is required for hot water), the electrical equipment can be employed for cooking purposes, thus avoiding an overheated atmosphere in the kitchen. The installation of the apparatus is a comparatively simple matter; only one flue pipe is required from the cooker to the chimney, and adaptation to the existing hot water system of an ordinary kitchen stove boiler is also an easy matter. The apparatus is not unsightly, nor unduly large, and the door of the coke stove can be let down when desired, giving a cheerful open fire.

Purely electrical heating and working appliances are to be seen at the Carron Co.'s Stand, No. 219, Row L. Some of the electrical fires shown here are of most pleasing design, both from the artistic and the electrical standpoint. With the resources at their command, one naturally expects to see a good job produced by this concern, but this does not detract from the pleasure of realisation. Various radiant electrical radiators are displayed, ranging from 500 watts capacity upwards, and with simple enamelled cast-iron frames, to the more elaborate period designs and the complete firegrate and mantle. Similarly with the cooking appliances, the range begins with a small electric grill, then the domestic cooker, comprising an oven with hobplate and grill, to the larger double oven cooker for large houses, and the large size grill and fish fryer for restaurant use. Smaller appliances in the form of electric kettles, irons, and gluepots are also exhibited.

Cleaning and ventilation by means of electrically operated apparatus can be studied at Stand 89, Row E, occupied by the Sturtevant Engineering Co., Ltd. In addition to various types of ventilating fans, induced, exhaust, and distributive, various size cleaning plants are shown. The larger plant of 8-h.p. capacity is a stationary appliance intended for use in hotels, workshops, factories, etc.

The electrically operated suction plant is usually installed on the ground floor or basement, and a pipe system employed to give service to the various floors of the building. At suitable positions on each floor special fittings are mounted to enable suction hose to be connected, thus giving a convenient method of cleaning without creating dust, and by employing a minimum of hand labour.

The smaller plant is termed portable, and has a capacity of 4-h.p. It can be seen in operation on the stand. It is, however, quite possible to use the machine as a stationary plant, a piping system of similar nature to that described for the larger plant being employed.

A still smaller cleaner for office use and for use in hotels, etc., has a capacity of ½-h.p., and is a thoroughly effective machine for the usual purpose of cleaning up small refuse, dust, etc. It is a portable machine, and provides an efficient means of cleaning in buildings where it is not possible to install a larger size portable or stationary appliance.

All the above machines are of this company's now well-known "Turbine" type, and, in addition, smaller models working on the same principle are made for household use.

Whilst it is to be hoped that on a future occasion there will be a greater number of electrical exhibits, it must be admitted that those shown on this occasion are good, and well worthy of careful attention.

5.—Paints, Colours, and Varnishes

By ARTHUR SEYMOUR JENNINGS, F.I.B.D.

THESE industries are well represented, and the many beautiful exhibits serve to add colour, brightness, and charm to the whole Exhibition, forming as they do in not a few cases beauty spots, so to speak, which show up well in contrast with other drab material. There are several novelties, and in many cases the exhibits indicate the growing popularity of certain materials used in house decoration which were but little known a few years back. Flat wall finishes are a case in point. They give so charming a matt effect and are made in so many useful colours that, as they are really washable, one does not wonder that they have proved so popular.

In a walk round Olympia many admirable colour combinations for all kinds of mural decoration may be found, together with oak and other woods stained in modern styles by means of finely-ground colours ground in oil, to which is added large proportions of turpentine. One does not need to exactly copy or adopt the colour combinations shown, but just as looking through a book of designs suggests and stimulates thought, so will a careful examination of some of the exhibits prove useful later on in choosing colour combinations. As one would expect, the painted and varnished work, as a whole, is admirably done, and here a mild criticism may be put forward.

Not a few of these examples present all the appearance of the first-class finish on a carriage obtained by the application of many coats. Very beautiful they look, and as examples of the fine results which may be obtained, under favourable conditions, are instructive. But the question arises whether the examples are quite fair to the decorator. An architect or a property owner visiting the Exhibition admires these fine examples of varnished or enamelled work, and not unnaturally expects the house painter to produce the same result, although the conditions of work are so vastly different. Take a sample panel by way of example. It was probably prepared and enamelled in a special room kept at a uniform temperature and one from which the dust was carefully excluded. Then the panel was most probably placed in a horizontal position while the varnish or enamel was applied. Several coats of varnishes—I have known of as many as four—might have been given, each one, excepting the last, being most carefully felted down with powdered pumicestone. Given good enamel and good varnish, of course, a surface like plate glass can be produced by such means.

The house painter with the very same enamel or varnish, employing the best craftsman in existence, could not produce an equal result. While he is painting a panel of, say, a front door the temperature varies. There may be dust or rain, and the door is in a vertical position. If he took it off its hinges and conveyed it to his shop, placing a temporary door in its place, he might be moderately successful. But even then it is doubtful whether his client or customer would be willing to pay for the considerable amount of labour and material involved. In ordinary fitted work, which cannot be removed, the results, at least in glossy work, must necessarily be inferior to those produced when all the conditions are favourable, because they can be carefully regulated. Many of the exhibitors, recognising these facts, have wisely had their examples of work done in what may be termed "decorators' finish," i.e., one which the first-class "brush hand" could be expected to produce under ordinary circumstances. These appeal much more strongly to the practical man.

It is not so many years ago since colour and varnish exhibits at some exhibitions—say, for instance, the last one at Paris—consisted of a glass case, in which were shown various samples of different dry colours, glass jars containing varnishes and so on. They were practically useless from a practical point of view, because there was nothing to indicate the quality of either the one or the other. Yet gold, silver, and bronze medals were awarded, not for the quality of the goods, of which the judges could know nothing, but for the general attraction of the stand, for which the public care nothing.

We have gone forward since those days and have learned that a practical demonstration is what is wanted. This can, of course, be done without difficulty in the case of paint, excepting as far as its durability is concerned, and that must be the test of time. Still, the "body" or opacity of the paint is easily demonstrated by merely painting over a black board or, preferably, one painted with black-and-white stripes. We need hardly point out the importance of "body" in a paint. If that quality is more or less lacking, an additional coat might be required.

One or two firms, in order to illustrate the body of their paint, show boards with dark grounds painted with three coats in such a way as to expose a portion of each. There is a strip of the very dark ground of the wood and then a strip of the first coat, showing how it covered a strip of the second coat, and a smaller portion of the finishing enamel. The study of such a board is very convincing, and there are many features of the same kind in the Exhibition.

The series of stains, derivatives of coal tar, in their several subdued and almost permanent colours, greens, browns, and reds, are shown on two or three well-designed stands, which demonstrate their utility both for inside and outside work, and in flat or varnished finish. There is a big joke in connection with this class of materials, and for obvious reasons I do not differentiate between them. Their good qualities may be summarised thus: (*a*) They are relatively quite cheap; (*b*) they are very easily applied; (*c*) being of coal tar origin, they are exceedingly well-adapted for the preservation of wood, because of their penetrative nature. Of course, they are always applied to the raw wood, and if a glossy surface is required, a special varnish is applied afterwards. The joke is this—a Union of Journeyman Painters, a few months back, made a widely circulated protest through municipal bodies and the public Press against the use of such materials—no joke so far—but the reason given was that this particular class of material might be applied by unskilled hands, and also that property owners should not cover their houses with tar! It does not seem to have occurred to these men—no doubt, many of them good craftsmen, but poor reasoners—that they were giving these materials about the best advertisement it was possible for them to receive. They could be applied by "unskilled hands," so that instead of paying 2s. 3d. to 2s. 4d. an hour, one might have the work done equally well for much less. The "tar" side of the subject has already been dealt with. Resolutions or no resolutions, such materials have come to stay, and their use will increase.

There are two exhibits of whitewash spraying apparatus, (1) the modern style, by means of which a whole front of a house can be painted down in one-fifth part of the time it can possibly be done by means of the brush. This is quite an up-to-date innovation. Although the apparatus has been used for many years in a large number of industries, it has not been employed to any extent in house painting. The new departure consists simply in the whole plant being portable, with a small motor for supplying compressed air. I feel certain that there is a great future for this class of machine, particularly in view of the very high cost of labour. The second class of machine is of an entirely different character and consists merely of a pump and hose, through which the whitewash is forced. This class of machine has also been used for a considerable time with great success for lime or whitewash, but not for oil paint, although many decorators do not seem to understand how advantageous they are. A friend of the writer informed him that he some time since gave an estimate for whitewashing a series of rooms in a large factory, and calculated 1½d. a yard for labour, and then thought of using one of the machines alluded to, which did its work so quickly that ½d. per yard would probably have paid for the cost of the labour.

An excellent exhibit of paint manufacturing machines occupies a prominent position, and there are included paint-making machines which may be worked by hand, and which are now being used to a considerable extent by painters to save the cost of labour in breaking up white lead by hand in the old way. Then there are paint-stirring machines, such as, for instance, the "Aptus" collapsible type, which is designed to throw up all pigment from the bottom of the can, and with a few turns of the handle to amalgamate thoroughly the ingredients of the paint or enamel. This ingenious mixer, made for one-gallon or five-gallon cans, is inserted through the neck of the can and screwed down, and if desired may be kept in that position until the can is emptied. A pouring-out spout is provided, and this is fitted with an airtight closing device. Among the advantages secured by the use of the stirrer are that the contents of the can are kept airtight and dustproof up to the moment of use. Another ingenious device for the easy handling of drums and cans of liquids is manufactured by the same firm.

The recent lowering in the price of wallpapers gave increased interest to the various beautiful exhibits of those materials. One well-known Berners Street firm have a large exhibit which is exceedingly well thought out and most attractive in appearance. Instead of showing a large number of papers, as is usual, they simply show panels on suitable dull backgrounds. Many of the designs are very striking. Some are particularly beautiful. In making a selection of wallpapers to show at an exhibit like this the wallpaper merchant must necessarily be doubtful to decide as to the kind to use. In most cases the papers chosen are of a novel or, at least, unusual character, and used judiciously many of those of very bright designs, and of some eccentric ornamentation, would give just the effects which an architect desires. On one of the panels is shown Lincrusta tiles and oak, both extraordinarily like the originals of which they are intended to take the place. Although many readers may object to use such materials from an æsthetic point of view, on the grounds that they are imitations or shams, yet as a matter of fact they both wear just as long as the original materials, or even longer, and cost considerably less.

Considering the whole, the Exhibition from the point of view of the decorator is satisfactory, although we notice that one or two well-known paint and varnish firms who exhibited on former occasions are absent this year. On the other hand, well-known features, such as the large model of a battleship, which is a veritable monument of gloss, shown by an Oxford Street firm, forms a feature of prominence which but few visitors can overlook.

6.—Sanitary Goods

By NANDY HOSKINS, M.S.E., M.R.San.I., Pres.I.S.E.

FROM a sanitary engineering aspect the Exhibition has always special attractions, and the decision of the promoters to hold it annually instead of biennially will no doubt be appreciated by both exhibitors and visitors. Many of the exhibits are quite unique in their attractiveness, and the comprehensive display of sanitary specialities would appear to excel any previous effort in this respect. The whole of the area of this huge building, including galleries and annexe, is fully occupied.

William E. Farrer, Ltd., of Birmingham, exhibit, among other specialities, their well-known "Facile" sewage distributor, which is controlled by means of a low-draught syphon. A full-size distributor is at work on a 14-ft. diameter filter bed, and visitors are able to judge for themselves as to its design and freedom of movement. Farrer's improved automatic tipping distributor, working on a 9 ft. by 4 ft. filter, is also shown. This is a most effective appliance for use in connection with the disposal of sewage from country houses and small communities, very little attention being required to ensure their satisfactory working.

A very interesting exhibit is that of the Aërsedcon Sewage Purification Plant Co., of Holborn, and several new features are introduced in the application of well-known principles in the disposal of sewage. The system is a combination of aeration, sedimentation, and filtration, and the plant is designed particularly for institutions, hospitals, residential estates, garden cities, golf club-houses, etc. The sewage is received into a storage tank, after first passing through a grit chamber to eliminate heavy mineral matters that may have gained access to the sewer. Here sedimentation takes place aided by the addition of chemicals if necessary. The sewage is then raised by a chain pump, or by a "Hèlice" pump; a small portion only, however, is allowed to flow through a regulating gate valve and the remainder returns to the storage tank. The "Hèlice" pump, which raises the liquid by means of an endless chain surrounded by wire coils, adapts itself to the aeration of the sewage and a continuous current of fresh air, propelled by means of a revolving fan, ensures abundance of oxygen to support the aerobic action of the bacteria.

There are special features in the succeeding processes through which the sewage is passed, and the final treatment is by passing the sewage through specially designed "continuing-floods" contact beds. The different appliances are in operation at the exhibition, and the firm is issuing a very interesting brochure on the bacterial purification of sewage by means of induced aeration.

The stand of Messrs. Doulton and Co., Ltd., of Lambeth, is particularly interesting, and consists of a representative selection of their high-class sanitary fittings. Four bathrooms are artistically decorated in various styles—one has walls lined in Venato statuary with Tinos marble bands, the floor being of Sienna and Tinos marble. Others are decorated in black and silver, orange and blue, and cream and gold: a feature of the latter being the treatment of the metal fitings with black oxidising process. Especially noteworthy are the handsome marble lavatories and mirrors in pale green, brown onyx, and green Tinos marbles. All are completely fitted with high-class valves and taps, and attention is drawn to those finished in white porcelain enamel.

In addition to the fitted bath rooms, a large portion of the stand is devoted to general sanitary fittings, among which are many items of interest. There is a good selection of w.c.'s, urinals, lavatories, and sinks of various kinds, in addition to a drinking fountain with patent bubbling jets. There are also a number of small fittings, such as special taps, adjustable ball valves, clip connections for w.c. inlets, etc. A fitting worthy of special notice is Doulton's patent "Silencer," which may be fitted to existing w.c. cisterns to reduce the noise while filling. It is particularly suitable and effective for ball valves working on high pressure.

Messrs. The Farringdon Works and H. Pontifex and Sons, Ltd., of Shoe Lane, E.C., who occupy a large stand, also exhibit a large and varied selection of all types of sanitary fittings, comprising fireclay and porcelain enamel baths, including ordinary tubs, shower baths with glass canopies, etc., w.c.'s, lavatories, urinals, etc., etc. An interesting feature of this stand is the selection of hospital fittings suitable for general ward work, operating theatre, etc. A number of smaller fittings, plumbers' brass work, pumps, etc., are shown, including the "Masher" patent cistern float, which consists of a seamless ball of patent composition, and is designed to replace the copper ball.

Mr. Ernest A. Denyer, of Fitzroy Place, Euston Road, exhibits a model marble bathroom, the walls in white statuary marble with panels of black and gold Potora, flanked with two particularly fine columns of Pavanazza, with old gold bases and caps. The whole room is carefully thought out from a sanitary point of view, there being no projecting mouldings to catch dust, and both the corners and the skirting are fitted with circular coves worked in marble to avoid dust traps. The apparatus shown comprises the latest form of plunge bath, porcelain inside and out. It has extra large services and waste, a wide flat roll, and stands some 2 in. lower than the ordinary bath

The gem of the exhibit is a quite unique and extraordinarily handsome lavatory in blue agate onyx. The lavatory top is of exceptional size, providing space for bottles, soap bowl, etc., and the whole is sunk to drain into the basin. Hot and cold water are laid on, the former supplied from "Denyer's Domestic Donkey," a small boiler with the flue carried through the cylinder which is placed immediately over to utilise waste heat. The floor is fitted with a marble surround extended under all the apparatus, but the centre is laid with granulated cork, which has the advantage of being warm to the feet and non-slippery.

The exhibit of the British Fibrocement Works, Ltd., of Erith, Kent, consists of the application of "Fibrent" asbestos cement manufactures to roofs, walls, ceilings, and floors. This material is fire-resisting and permanent. It improves and hardens with age and exposure, and does not crumble or require to be painted for preservation. The manufacture of artificial slates of this material to the standard sizes of ordinary roofing slates is a new departure in artificial roof coverings.

The British Everite and Asbestilite Works, Ltd., of Manchester, show the various uses of their asbestos-cement products. Besides corrugated and flat building sheets for walls and ceilings, tiles, etc., their latest speciality is the application of asbestos-cement to rain-water goods. There would appear to be a good opening for these in the future, and that much economy could be effected by their use.

Jointless sanitary flooring is well represented by several exhibitors. The Wilfley Company, Ltd., of London Wall, E.C., have a floor laid with their "Marbolith" composition which is artistic and hygienic. It is made in a variety of colours and can be laid direct on to wood, concrete, and any similar solid foundation. It is usually laid ½ in. thick in one coat and with concave skirting round walls; all sharp angles in which dust can collect are therefore eliminated. "Marbolith" is laid in a plastic condition and sets ready for use in from twenty-four to forty-eight hours. Other exhibits of a similar character are shown by Messrs. "Thermos" Flooring Company, Ltd., C. W. Langham, Ltd., and Robert W. Blackwell and Co., Ltd. Earth closets are shown by Messrs. Moule's Patent Earth Closet Company, Ltd., of Gray's Inn Road, W.C., and should be of interest to those connected with rural housing.

Drain clearing and testing apparatus are in evidence on several stands. Messrs. Cakebread, Robey and Co., of Wood Green, make a speciality of these at one of their two stands. On this stand are shown the latest improvements in drain rods of malacca and rattan, with lock-fast joints. Flexible steel drain rods for cleaning crooked drains, etc., are a new departure. Some good patterns of drain plugs were noticed, and also wire cleaners for w.c. and lavatory traps.

Messrs. E. A. Ward and Co., of Birmingham, exhibit similar appliances, one of their specialities being a steel-clad sewer rod. This possesses the same elasticity as a cane rod with the advantage of longer life.

The hot water circulator "Stimex" No. 1, by the Stimex Gas Stove Company, of Balham Hill, S.W., provides an ample supply of hot water all over the house at a remarkably low cost and with the minimum of trouble and attention, and can be used in connection with existing installations if required.

Materials for the waterproofing of concrete are exhibited by Building Products, Ltd., of Sloane Square, London. Demonstrations are given showing the properties of "Bareau," "Prufit," and other of their proofing specialities. Messrs. Kerner-Greenwood and Co., of King's Lynn, demonstrate in a very convincing manner the practical applications of "Pudlo" brand cement waterproofer.

The Bitumen Products, Ltd., of Glasgow, introduce as "Rufoid" cement a plastic composition which is applied to wall surfaces to render them damp-resisting, and may also be used as a mortar for forming horizontal damp-proof courses. It is claimed that it never becomes brittle, and various exhibits are shown to prove its high adhesive qualities and complete imperviousness to moisture. It may also be used for jointing stoneware drain and sewer pipes, and from specimens on view would appear very suitable for this purpose. The firm also shows examples of dilapidated slate roofs, etc., treated with "Rufoid" paint, a thick emulsion which it is said renders the roof water-tight, and at the same time binds each slate securely to its neighbour.

Messrs. Sharp, Jones, and Co., of Parkstone, Dorset, have a good show of their well-known rock-concrete specialities. Sewer tubes varying from twelve inches to six feet in diameter, as also a continuous length of rock-concrete tubing, with various tapers and connections, make a very effective exhibit. This description of sewer has been very extensively used by Government departments and local authorities. They are cheaper than brickwork, more easily constructed, and impervious to water. Rock-concrete manholes, complete with reinforced concrete covers, and a 4 ft. street gulley, with cleaning eye of the same material, are also shown. A good selection of salt-glazed sanitary ware, made from the Dorset clay, is also exhibited.

The Stanton Ironworks, Ltd., the well-known manufacturers of cast-iron pipes, are showing specimens of their "Stanton Hume" reinforced concrete pipes, which are made by a centrifugal process in sizes from 4 in. to 60 in. in diameter. They will stand an internal pressure up to 100 lbs. per square inch, and may be used for sewer pipes or water mains. The pipes, which are dense in texture, have a very smooth finish, and would appear well adapted for the purpose intended.

There are many other exhibits of particular interest to sanitary engineers. Materials for damp-proof courses are shown by sundry exhibitors, and there are many well-known firms showing bricks, tiles, and general sanitary stoneware. In fact, a whole day could well be spent with advantage to those interested in any branch of building or engineering.

Trade and Craft

Osram and Robertson Lamps.

The General Electric Company, Ltd., of 67 Victoria Street, London, E.C.4, have issued a new complete catalogue giving particulars and prices of Osram vacuum and gas-filled lamps, automobile lamps, flash lamps, and Robertson carbon lamps. The catalogue is fully illustrated, and should be of great value both to buyer and seller. Extensions to the Osram Lamp Works on a very large scale are in contemplation, with the aim of not only meeting the requirements of this country, but of filling the enormous overseas demand. Some of these extensions are on the verge of completion.

Vitrolite.

We have received some interesting particulars with regard to the manufacture, consistency, and uses of Vitrolite. The chief constitutents in the manufacture of Vitrolite are silica sand, feldspar, flourspar, china clay, lime, kryolith. These, together with small quantities of other materials, are fluxed at 3,000 deg. Fahr., poured upon iron plates, and rolled to given dimensions. The atmosphere coming into contact with the metal while it is molten gives the surface a brilliant natural fine polish, which is claimed to be non-porous and impervious to the action of acids and alkalis. It is white in colour and in a cross bending test a sheet of this material is said to have stood a test of 1,625 lb. before failing. Vitrolite is used largely in hospitals, and for lavatory basin back slabs, sign boards, stall boards on shop fronts, facing pillars, walls and ceilings, etc. Among the more important Vitrolite installations recently erected are lavatories in Australia House, Strand; lavatories and hair-dressing saloons in Messrs. Selfridge's premises at Liverpool and Leeds; dairies at Craigweil House, Bognor, and Swinfen Hall, Lincolnshire; cold storage at Great Western Hotel, Paddington; fittings in Guy's Hospital. It has also been used in numerous bathrooms, kitchens, and corridors in private houses in London and all parts of the British Isles.

Reduced Price of Eco Combination.

Messrs. Robert Jenkins and Co., Ltd., of Rotherham, announce the following reduction in the prices of their Eco combination with gas cooker: Size 1, from £35 to £30; size 2, from £40 to £33; size 3, from £45 to £36. With electric oven: Size 1, from £40 to £35; size 2, from £45 to £38; size 3, from £50 to £42.

Further Notes on Exhibits

D. ANDERSON AND SON, LTD.,
Row F, Stand 111.

A model of the firm's "Belfast" lattice girder roof, covered with "Rok" roofing, is shown on this stand, and the same roofing is also exhibited as reinforcement for a concrete roof. All classes of "Red Hand" roofing, sarking, and lining felts, and damp-courses are included in the exhibit, which also comprises a demonstration of "Sidol" (sideroleum) wood preservative applied to wood fencing.

Address: Lagan Works, Belfast.

METACON PATENT GLAZING BAR CO., LTD.,
Row J, Stand 192.

This stand shows a roof glazed on the "Metacon" patented system of puttyless glazing, which, the makers say, is absolutely water tight and dust proof, and is reliable, efficient, and economical. A feature of the system is the unique fixing of lead flashing, and no external painting is required, maintenance costs being thus reduced to a minimum.

Address: 124 Chancery Lane, W.C.2.

G. R. SPEAKER AND CO.,
Row G, Stand 138.

This exhibit affords a practical demonstration of Speaker's patent "Trellit" principle, and shows a building erected by its means in various stages of construction. A light steel framing forms a fire-resisting basis, and the complete wall and ceiling sections are made to fold up trellis fashion for easy transport, handling, and erection. Owing to its simplicity of standardised design the structure can be erected with a minimum of skilled labour in a very short time, and when finished with Eternit asbestos cement roofing tiles and sheets an economical and attractive permanent building is secured.

Address: Eternit House, Stevenage Road, London, S.W.

ART METAL CONSTRUCTION CO., LTD.,
Row G, Stand 129.

This exhibit shows how perfect immunity from the danger of fire can be secured by the use of steel desks, shelving, fittings, doors, roller shutters, etc. Architects' own designs can be followed, carrying out any treatment desired. Cabinets which have actually withstood the test of fire are exhibited, and the numerous equipments supplied by the company to various insurance companies, Government buildings, and libraries are illustrated by photographs.

Address: 5-11 High Holborn, E.C.1.

BRITISH GREYWOOD,
Row C, Stand 40.

Greywood is an English elm treated by a special process by which the colour of the wood is changed from brown to a delicate grey tint. Of British growth and treatment, this wood provides a most valuable neutral background for any colour scheme, and panellings, floorings, and furniture for which it is employed have an original beauty and novelty of their own.

Address: Castle Hedingham, Essex.

VICKERS, LTD.,
Row B, Stand 21 (Gallery).

Messrs. Vickers, Ltd., concrete department, have on this stand an exhibit comprising concrete machines of various types. It is claimed that with the portable concrete machine, which is designed to make concrete building bricks of standard English dimensions, a man and a boy can produce 2,000 bricks a day. A portable concrete roofing tile machine, for producing inter-locking wind and waterproof tiles of any desired colour, is also shown, and a portable concrete partition slab machine is another feature of the exhibit.

Address: Vickers House, Broadway, Westminster, S.W.1.

ROBERT ADAMS,
Row J, Stand 178.

The artistic exhibit of Maison Picard, of Paris, is admirably representative of the best French designer's art and craftsmanship in decorative fittings for doors and windows. Their distinctive metal work, fine alike in conception and finish, will interest and please architects and others who require decorative furniture appropriate to their designs, of which examples are shown in the accompanying illustrations. The sole agents in Great Britain for Messrs. Picards' articles are Robert Adams.

Address: 3 and 5 Emerald Street, London, W.C.1.

J. A. KING AND CO.,
Row F, Stand 103.

A comprehensive selection of the King products may be seen on this stand, including concrete partition blocks and hollow wall blocks in various thicknesses. Plaster slab partitions and ceilings are shown, as is the King roof slab construction, which is, it is claimed, fire-resisting and an effective insulator against heat and cold. The King ferro-concrete glazing bar, Ferro-glass, a ferro-concrete and glass construction for pavement floor and roof lights, and "Cristol-glass" for domes and vertical glazing are other features of the exhibit.

Address: 181 Queen Victoria Street, London, E.C.

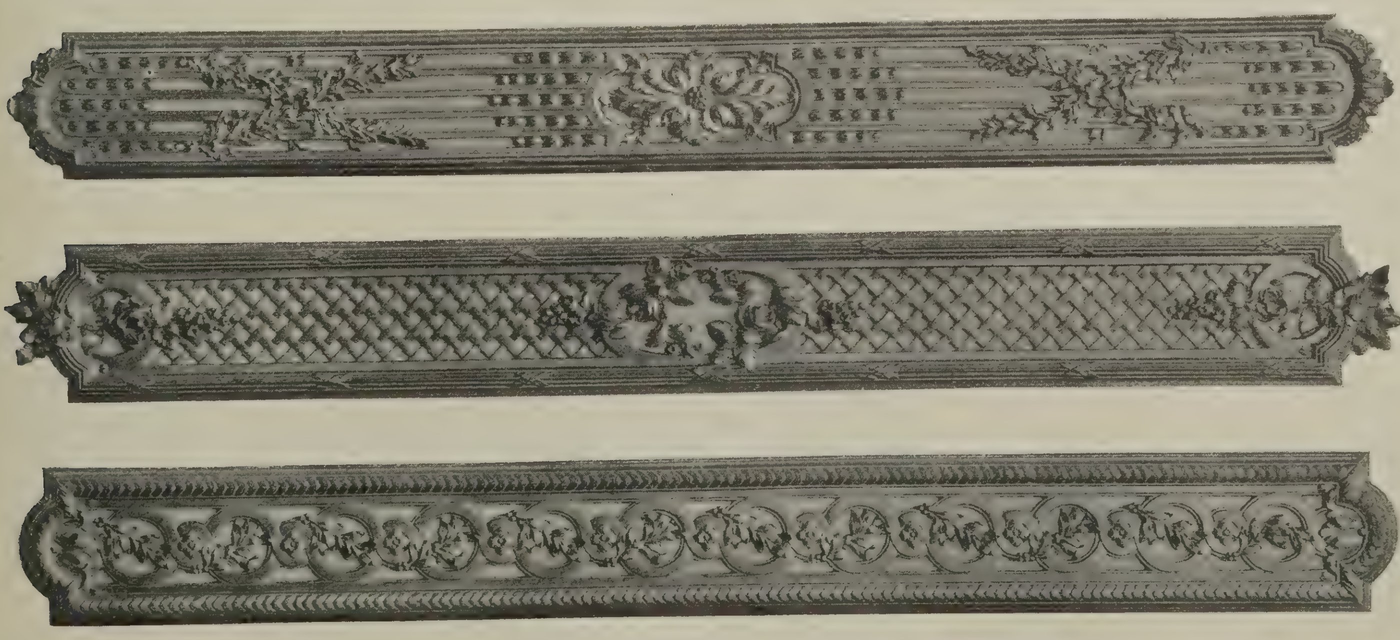
THE BEAVER BOARD CO., LTD.,
Row E, Stand 94.

The Beaver Board stand illustrates the many and various uses to which this wall board can be put. Seen in a finished room, illustrated on page 509, its decorative possibilities can be fully realised, and its sound- and damp-proof qualities recommend it for all forms of interior decoration. Veneered Beaver Board, in a variety of attractive woods, is also exhibited, and the outer pillars of the stand are finished with Wallstone distemper.

Address: 133-136 High Holborn, W.C.1.

BRITISH EVERITE AND ASBESTILITE WORKS,
Row E, Stand 77.

This exhibit consists of an imposing looking building, which demonstrates the many and varied uses to which Everite and Asbestilite asbestos-cement products can be put. Everite corrugated sheeting is being, it is claimed, used in place of corrugated iron, and is proof against every destructive and corrosive agency. Slating, ridge-capping, and other roofing accesso-



THREE EXAMPLES OF DECORATIVE METALWORK BY MAISON PICARD.

ries are made in the same material, and domestic and rain-water goods are also exhibited. Asbestilite flat sheets for walls and ceilings are a prominent feature of the exhibit.

Address: 29 Peter Street, Manchester.

THE CRITTALL MANUFACTURING CO., LTD.,

Row G, Stand 139.

This particularly attractive stand demonstrates the Crittall standard metal windows in every shape and form, from simple types suitable for housing schemes and factory sashes for industrial buildings to the four-light mullioned opening with lead glazing typical of the best class of domestic work. A noticeable feature common to all these windows is the ease with which they can be cleaned, both inside and out, from within the room. Folding bronze doors and a large single-pane pivoted ventilator are also shown.

Address: 246 High Holborn, W.C.1.

LONDON WARMING CO., LTD.,

Row L, Stand 222.

A variety of cooking and heating appliances are exhibited on this stand, including the well-known "Kooksjoie" anthracite range, and the no less popular "Wifesjoie" one-ring gas cooker. The Dulce Domum combination fireplace, also shown for either kitchen or living-room kitchen, can be fitted with either one or two wrought-iron boilers as desired, the one for domestic supply and the other for heating radiators.

Address: 20 Newman Street, W.

FAWCETT CONSTRUCTION CO., LTD.,

Row J, Stand 173.

This firm of constructional engineers have an interesting exhibit of Mon'lithcrete steel joists, of which they are the patentees and manufacturers. The construction consists of rolled steel girders and concrete, and it is claimed that the monolithic construction obtained is considerably stronger than ordinary rolled steel joists and concrete, as these girders cannot fail by buckling like ordinary joists. The "Edwardian" down-draught-preventing chimney pot, made in red, buff, and brown, and either round or flat-panelled, is also shown.

Address: 47 Victoria Street, S.W.1.

THE WILFLEY COMPANY, LTD.,

Row H, Stand 141.

The Marbolith jointless flooring, laid as an actual floor direct on to ordinary boards, is shown on this stand, and demonstrates how with concave skirting sharp angles are avoided and perfect cleanliness ensured. This composition floor is obtainable in a variety of colours, and can be laid on concrete, wood, or any solid foundation. It is stated to be fire-resisting and damp-proof, and is particularly valuable for factories and offices where a hard-wearing surface is desired.

Address: Salisbury House, London Wall, E.C.2.

THE BRITISH EMAILLITE CO., LTD.,

Row G, Stand 126.

This exhibit includes the constructional and decorative varnishes and enamels manufactured by the company shown in the finish normally obtainable under ordinary working conditions. The standard English white enamel and flat white undercoating are demonstrated on the stand.

Address: 5 Hythe Road, Willesden Junction, N.W.10.

MINISTRY OF LABOUR,

Bays 7 and 8 (Gallery).

The object of this exhibit is to afford employers of building trades' labour an opportunity of studying the Government scheme of training for disabled sailors and soldiers. The exhibits of carpentry, joinery, plumbing, painting, etc., are the work of trainees and give a fair example of what is being accomplished. It is hoped that this demonstration will result in increased support among employers, and visitors are invited to ask for full particulars from the instructors in charge of each section.

Address: St. Ermin's, Westminster, S.W.1.

THE TORBAY AND DART CO.,

Row G, Stand 127.

The principal exhibit of this firm is their "Novoid" patent concrete proofer, for rendering concrete impervious to weather, water, oils, etc. It consists of a powder which blends the concrete atoms into an indissoluble and impervious conglomerate, and its synthetic effect in concrete or cement renderings has been tested in practice and proved by the microscope to render concrete permanently proof against water, oil, or acid. Practical application of "Novoid" is to be seen in the petrol tank which forms a conspicuous part of the exhibit. The efficiency of "Novoid" is further demonstrated in a unique and interesting manner by a microscopic projection which may be viewed on the stand.

Address: 26-28 Billiter Street, London, E.C.3.

BRITISH URALITE CO., LTD.,

Row E, Stand 98.

This exhibit consists of a garage for a light car, which can be very quickly erected, and is both cheap and durable. The inside and outside are covered with Asbestone sheets, and the garage is roofed with Asbestone tiles and corrugated cement sheets.

Address: 8 Old Jewry, E.C.2.

MOLER FIREPROOF BRICK AND PARTITION CO., LTD.,

Row C, Stand 35.

This stand is entirely constructed of Moler insulating bricks and slabs, and illustrates in a practical manner their application to cavity walls. The special system of binding the slabs is also shown. Fireproof reinforced concrete floors, with Moler bricks as lighteners, and hollow columns demonstrating the method for enclosing steel joists and girders as a means of protection from fire, are interesting features of the exhibit.

The display includes numerous samples of the company's manufactures in the shape of bricks and blocks; specimens of the diatomaceous earth from which they are made at the Colchester works; as well as the high insulating bricks specially adapted for use in cold storage, and for the insulation of boilers, retort benches, etc.

Address: Vickers House, Broadway, Westminster, S.W. Telephone: Victoria 6900.

FERODO, LTD.,

Row D, Stand 55

This stand demonstrates the methods of fixing Ferodo fibre stair treads and the new Feroleum nosings, which are exhibited in various colours and styles. The treads can be fitted to wood, stone, or marble, and their frictional properties enable them to grip the sole of the boot so firmly that slipping is impossible. The Feroleum nosings, made from a mixture of Ferodo materials and rubber, can be supplied either with or without wire reinforcement, and are fitted with the Ferodo patent flange. Other specialities include a patent attachment for worn stone steps, a serrated edge for tramway running boards, and Ferodo stair-tread dressings.

Address: Sovereign Mills, Chapel-en-le-Frith.

THOS. PARSONS AND SONS,

Row G, Stand 121.

The good ship "Endelline" is again on view at this stand, showing some practical applied examples of Parsons' enamels, paints, and varnishes, including Endelline gloss enamel, Endelflat flat enamel, and Unicote flat wall finish. Parsons' undercoating body white paint and a floor varnish are also exhibited.

Address: 315-317 Oxford Street, London, W.1.

THE ECONOMIC EAVES CO.,

Row B, Stand 36 (Gallery).

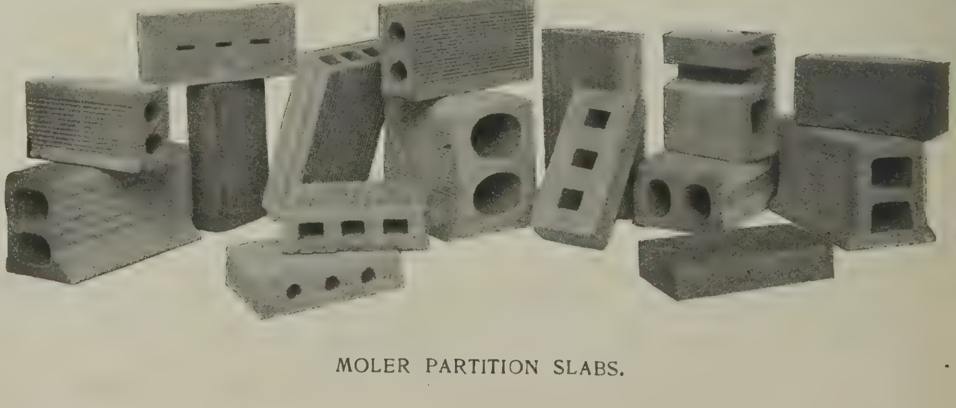
On this stand is shown a simple reinforced concrete form of construction which aims at minimising the high cost of construction at the eaves of roofs. The makers claim that it is particularly suited for housing and town-planning schemes, as its use saves from five to ten per cent. in the length of rafters and roof coverings, and eliminates the use of metal gutters.

Address: 9, Southampton Street, W.C.1.

HURRY WATER HEATER CO.,

Row L, Stand 225, and Row B (Gallery), Stand 32.

A variety of specialities which should prove of particular interest to housing authorities are on view at these stands. The No. 10 Hurry cylinder is shown in operation, delivering hot water for bath, basin, and sink supply, and the No. 3 Hurry, especially suitable for good-class villas and bungalows, supplies hot water



MOLER PARTITION SLABS.

for bath and basin only. A miniature Hurry, the "Baby," ensures hot water for the sink, and the Hurry furnace is also demonstrated. By means of this clothes can be boiled and bath water heated.

Address: 39 Broad Street, Birmingham.

BATTISCOMBE AND HARRIS, LTD.,

Row G, Stand 130.

Fibrous plaster and joinery are the principal exhibits on this stand, and a variety of designs for ceilings, cornices, and columns in the one, and panelling, doors and staircases in the other, can also be seen. Cabinet work and carving in hard or soft wood is a feature of the exhibit, which also includes mirror frames, electric light fittings, grates, marbles, and wood, metal and stone memorials.

Address: 47, New Cavendish Street, W.1.

HADFIELD'S (MERTON), LTD.,

Row E, Stand 86.

The beautiful little temple erected by Hadfield's (Merton), Ltd., is painted in the brilliant colours and dazzling white of "Heolin" enamel. A new "Heolin" production—"obliterating paint"—which entirely obliterates the old surface whatever its colour or condition, is also shown. This obliterating paint is used as a flat finish on walls or other surfaces where gloss is not desired, or as a preparatory coating upon which to apply the glossy finish. An oil polishing varnish, by which it is claimed that a finish equal to French polishing can be quickly and simply obtained, is a further feature of the exhibit.

Address: 63 Regent Street, W.1.

INTEROVEN STOVE CO., LTD.,

Row K., Stand 205.

The "Interoven" convertible stove shown on this stand can be instantly converted from a cooking stove to a slow combustion sitting-room open grate. Fitted with large hot plate oven above fire, and hot closet below fire, it is stated to save space, brickwork, labour, and coal. The boiler at the back will work cylinders of thirty-five to forty gallons capacity. The "Bewty" expanding barless fire front, by which old-fashioned stoves can be modernised at small cost, is also exhibited.

Address: 156 Charing Cross Road. London, W.C.2.

McDOWALL, STEVEN AND CO., LTD.,

Row B., Stand 15.

The "Lauristine" combination stove and boiler, specially designed for housing schemes, is shown in operation on this stand, giving a continuous hot water supply to bath, lavatory, etc. Other exhibits are the Lion patent range, the Cottage combination boiler and stove, and a particularly attractive old English fireplace suite. A series of new designs of electric heating stoves and other cooking and heating specialities are also shown.

Address: 2, Upper Thames Street, E.C.4.

THE ALLAN REVOLVING SERVICE HATCH.

The useful invention will form a valuable addition to the labour-saving equipment of any house. By its means plates and dishes can be transferred from kitchen to dining-room with a minimum expenditure of time and effort, as both sides can be loaded simultaneously, and it has the great advantage of being both sound and smell-proof. When closed its appearance is quite ornamental, projecting as it does only very slightly from the wall.

Address: 44 Seymour Place, Bryanston Square.

JAMES AUSTIN AND SONS, LTD.,

Row J, Stand 190.

All classes of plaited cords, "Anchor" brand specialities sash cords, Venetian and glacie blind lines, verandah cords, clock lines, endless cords for fanlight openers, etc., are exhibited on this stand.

Address: St. Georges Mills, Hoxton, N.1.

THE LIMMER AND TRINIDAD LAKE ASPHALT CO., LTD.,

Bay 16, Gallery.

This exhibit comprises a selection of specimens of various asphalts for road and floor pavings, Trinidad Lake bitumen for various industrial purposes, Lithofalt paving blocks, and asphalt macadam. Asphalt in various forms as laid is shown by models, and samples of Bitmarin bituminous specialities, including paints, varnishes, and damp-proofing composition, are also shown.

Address: 82 Victoria Street, Westminster, S.W.1.

BRITISH CANADIAN EXPORT CO., LTD.,

Row C, Stand 44.

Of great practical value is the fully-equipped kitchen-scullery contained in a total area of 49 square feet. Its chief feature is the Barnet-Easwork kitchen dresser which, made of Canadian hardwood, contains within itself everything for kitchen use. The Barnet refrigerator, also exhibited, keeps all perishables in perfect condition, and is so constructed that even milk and onions can stand side by side without contamination.

Address: G. E. W. Crowe, 83 Pall Mall, S.W.1.

THE TOURBA CONSTRUCTION CO., LTD.,

Row H, Stand 168.

The Frewen cavity-wall brick blocks and economic systems of wallage construction are shown on this stand. It is claimed that by the use of these blocks a great economy in internal space is effected, amounting to 700 cubic feet in a two-storey worker's house. The walls so built are, the makers say, damp and sound proof, and owing to the system by which the bricks interlock and dovetail into each other, highly resistant to all pressures, thrusts, and strains.

Address: 42-60 Terminus Chambers, 6 Holborn Viaduct, E.C.1.

THE BRILLIANT SIGN CO.,

Row H, Stand 152.

All kinds of signs are exhibited on this stand, including the original "Brilliant" letter for facias, tablets, windows, etc. The exhibit also includes showcases in various styles, both in hardwood and metal. Metal letters, bronze and brass plates, and day and night signs are also shown. The company wishes it to be known that owing to the fact that they no longer have to pay heavy London rents, they are able to make a 25 p.c. reduction in their prices.

Address: 38 Gray's Inn Road, W.C.1.

EWART AND SON, LTD.,

Row K, Stand 196.

Ewart's geysers, exhibited on this stand, include the "Victor," a reliable bath-heater, the "Lightning" for bath and domestic use, and the "Califont," supplying instant hot water to bath, lavatory basin, and sink.

The "Industria" water-heater and the "Ewart" patent basin-bath for new housing schemes are also shown, together with a selection of nickel-plated bathroom fittings and toilet requisites. The Ewart "Emperor" cowl for the cure of smoky chimneys is another feature of the exhibit.

Address: 346, 348, and 360 Euston Road, London, N.W.1.

THE STELEONITE METAL STAMPING CO., LTD.,

Row D, Stand 57.

Stamped metal ceiling plates, cornices, coves, and friezes are shown on this stand, also plastic metal ornaments made to architect's design. Engineers will be interested in the Lewis dovetail corrugated steel sheeting for reinforcement for floors.

Address: "Steleonite" Works, Old Ford Road, E.3.

WM. OLIVER AND SONS, LTD.,

Row A, Stands 4 and 5.

The most prominent feature of this exhibit is a guest room delightfully panelled and fitted out in English walnut, and the beauty of the wood used in this way has only to be seen to be fully appreciated. Numerous samples of mahogany and other foreign hardwoods are shown, and a fine parcel of the best European wainscot is also on view.

Address: 120 Bunhill Row, E.C.1.

STIMEX GAS STOVES, LTD.,

Row B, Stand 13.

A selection of Stimex gas ranges, cookers, and hot water circulators are shown on this stand, all embodying the Stimex principle of construction, which is attended by many obvious advantages. The fact that there are no burners in the oven entails perfect cleanliness during the cooking process, and it is claimed that gas consumption is reduced by more than one half. The hot chamber for warming plates is a particularly useful feature.

Address: Stimex House, Balham Hill, S.W.12.

"THERMOS" FLOORING CO., LTD.,

Row C, Stand 42.

Examples of "Thermos" composition flooring, which is claimed to form a fire-proof, vermin-proof, hard-wearing, jointless, and dustless covering for floors and walls are shown on this stand. The surface can be trowel finished or highly polished as required, and the flooring can be laid on concrete, stone flags, old worn wood floors, or any other solid foundation.

Address: 85 North Oswald-street, Glasgow.

EMDECA METAL DECORATION CO., LTD.,

Row H, Stand 148.

The Emdeca metal tiles, shown on this stand, are enamelled on zinc, and have marked advantages both from the hygienic and the economical point of view. They are recommended for wall and ceiling treatment, and are particularly useful in kitchens, larders, bathrooms, hospitals, and shops.

Address: 97 Queen Victoria Street, E.C.

E. POLLARD AND CO., LTD.,

Row H, Stand 146.

"Kwikserving" fixtures and shop fittings, of which Messrs. Pollard are patentees and sole makers, are a feature of this exhibit, which also includes an entirely new type of display cases and glass counters manufactured by the firm. It is stated that the cost of this type is reduced from 25 per cent. to 30 per cent., although the materials are of the same quality as in the more expensive cases.

Address: 29 Clerkenwell Road, E.C.

THE HEMEL HEMPSTEAD PATENT BRICK CO., Ltd.

Row H, Stand 152a.

"Hempstead" hollow partition blocks shown on this stand are made in all thicknesses and are guaranteed fire-resisting to the melting-point of steel. They are made to take nails and screws, and can be sawn or tooled as required. They have received the full approval of the Ministry of Health and are being supplied to various housing schemes in various parts of the country.

Address: 326 Gray's Inn Road, W.C.1.

THE "QUICKSEY" CABINET MANUFACTURING CO.,

Row J, Stand 170a.

The Quicksey kitchen cabinet exhibited on this stand is designed to resist the wear and tear of kitchen use, but forms at the same time a distinctly ornamental piece of furniture. It contains cupboards and drawers for every kitchen requirement, and the porcelain table is an attractive feature.

Address: 30 Cromwell House, Fulwood Place, High Holborn, W.C.1.

G. A. HARVEY AND CO. (LONDON), LTD.,

Row B, Stand 10.

The exhibits on this stand include chimney cowls, metal pressings and stampings, perforated metals (over 2,500 patterns), plate steel piping (welded and riveted), plate steel gutters, radiator covers, stamped steel rain water goods, steel shelving and lockers, tanks (patent), cylinders and cisterns, ventilators, washing machines, weather vanes and finials, and woven wire.

Address: Suffolk House, 5 Laurence Pountney Hill, E.C.4.

DREADNOUGHT FIREPROOF DOORS, LTD.,

Row A, Stand 3.

"Dreadnought" fireproof doors have, it is stated, successfully withheld a temperature of 2,000 deg. F. for four hours. They can be ribbed or panelled to any design desired, and the latter may be further ornamented by the addition of artistic mouldings. "Empire" firedoors are somewhat lighter, but equally strong. All the doors are made to hinge, swing, or slide close automatically. "Dreadnought" cabinets, constructed in a similar manner to the doors, are also shown.

Address: 46 King William Street, London, E.C.4.

STEWARTS AND LLOYDS, LTD.,

Bay 2, Gallery.

A comprehensive exhibit of wrought iron and steel lapwelded and solid drawn pipes for steam, gas, water, etc., is shown on this stand. Solid drawn and lapwelded boiler tubes and samples of high pressure steam pipes for working pressure up to 350 lbs. per square inch are also exhibited. Types of high and low pressure pipe joints in section, Perkins' hot water tubes, tubular handrailing of all descriptions, and coils, steel castings, zinc sheets, are further features of the exhibit.

Address: Broad Street Chambers, Birmingham.

BALDWINS, LTD.,

Bay 19, Gallery.

Painted and galvanised export tanks, galvanised riveted cisterns, hot water tanks, welded cylinders, coal bunkers, wall ties, etc., are included in this exhibit. Galvanised corrugated and flat working-up sheets, curved corrugated sheets for concrete flooring, galvanised wrought iron guttering, rain water piping, ridge-capping, etc., can also be seen on the stand.

Address: 3 St. Helen's Place, Bishopsgate, E.C.3.

H. J. AND C. MAJOR, LTD.,

Row J, Stand 179.

Major's patent interlocking Roman tiles, angular, Grecian, Welbeck, and plain tiles are shown on this stand. Ordinary Roman, treble, and pan tiles, ridges and finials, and bricks of every description are included in the exhibit, also Bath bricks for polishing purposes. Major's patent tiles are, it is stated, extensively used on many public buildings throughout the British Isles and in the Colonies, and on numerous housing schemes throughout the country.

Address: The Patent Tile Works, Bridgwater, Somerset.

C. A. PETERS, LTD.,

Row D, Stand 66.

"Peterlineum" (formerly called Carbolineum) wood preservative is exhibited in a pavilion, all the woodwork of which has been treated with it. "Antioxide," a special varnish for applying over "Peterlineum," is also shown, together with Imperial black varnish, for outside ironwork, to prevent rust.

Address: Derby and London.

A. SANDERSON AND SONS, LTD.,

Row F, Stand 106.

This exhibit is of modern wallpapers and cretonnes, paints and brushes, and all materials and accessories for house decoration. It includes leathers in a variety of shades, Tekko of silk effect, Canotex, the canvas with the waterproof backing, and reproductions of Japanese canvases in gold and colours. Enamels, paints, distempers, varnishes for interior and exterior use, and Durolave, the new water paint, are also shown.

Address: 52-55 Berners Street, W.1.

THE CONCRETE UTILITIES BUREAU,

Row F, Stand 108.

At this stand free literature on the manifold uses of concrete may be obtained. "Concrete Cottages, Small Garages, and Farm Buildings," by Albert Lakeman, M.S.A., and H. J. Birnstingl, A.R.I.B.A., and "Concrete Roads," a technical handbook for borough surveyors, engineers, and road contractors, are on sale.

Information is also supplied on concrete matters generally, and visitors to the exhibition are cordially invited to call at this stand.

Address: 35 Great St. Helens, E.C.3.

JAMES WEBSTER AND BRO., LTD.,

Row K, Stand 200.

Upson processed board—the board with the blue centre—for the construction of walls and ceilings is applied in a slightly moist condition and hardens upon exposure to the atmosphere. The surface being highly finished this board is most economical in the use of paint or colouring of any kind. It is shown in section showing correct method of fixing, and literature, samples, drawings, and photographs illustrating its use can be obtained on the stand. Flooring specialities in hardwoods and softwoods are also exhibited.

Address: Dashwood House, 9 New Broad Street, E.C.2.

SAMUEL SMITH AND SONS, LTD.,

Row B, Stand 10.

The patent "Foresight" combination grate shown on this stand can be used with either open or close fire. The swinging hob-plate acts as a hot plate for cooking, and the automatic movable canopy regulates the consumption of coal. The grate is attractively tiled, and all parts being standardised are easily replaceable. The exhibit also includes the Trafalgar and Favourite cooking ranges and a selection of interiors, mantel pieces, and tile register grates.

Address: Beehive Foundry, Smethwick.

AGRICULTURAL AND GENERAL ENGINEERS, LTD.,

Row F, Stand 119.

Richard Garrett and Sons, Ltd., Leiston, exhibit a 6-ton end-tipping trailer and sleeping van for three men. Barford and Perkins, Ltd., Peterborough, show a motor roller, 10-12 tons, type "J," and Aveling and Porter, Ltd., Rochester, are demonstrating their steam road roller and steam tractor with compound engine and Belpaire boiler.

Address: Central House, Kingsway, W.C.2.

JONES AND ATTWOOD, LTD.,

Row B, Stand 12.

The "Domestikatum" independent boiler for supplying hot water to any part of a house or other building, shown on this stand, is constructed with open fire for light cooking, etc., and for heating the kitchen or other room in which it is fixed.

The "Cultivatum" boiler, for greenhouse and motor-house heating, is designed for use without stokehole, by inserting into side or end of structure.

The "Batheater" apparatus, for providing a continuous supply of hot water for baths and other purposes, is also exhibited.

Address: Stourbridge.

GAWTHORP AND SONS Amalgamated with J. Wippell and Co., Ltd. (of Exeter),

Row C, Stand 29a.

This exhibit includes wrought ironwork signs, grilles, door furniture, screens; repoussé-work name plates, signs, finger plates; bronze and brass-work cast and engraved tablets, name plates. Woodwork in the form of carving, tablets, and church fittings and stained glass, both domestic and ecclesiastic, are also shown.

Address: 16 Long Acre, W.C.2.

BRISTOWE'S TARVIA, LTD.,

Bay 14a, Gallery.

"Tarvia," for construction and surface treatment of roads, is the principal feature of this exhibit, and "Cantar" patent continuous hand-spraying machines are also shown.

"Cuteline," the preservative compound for all structural work against atmospheric conditions; Cuteline paint, a decorative adaptation of the preservative material for coating steel, wood, brick, concrete and woodwork, and Robbin's "Non-Set" plastic cement for waterproof and tight joints in inspection covers and drain pipes, are, together with "Fibrastic" rail packing, features of the exhibit.

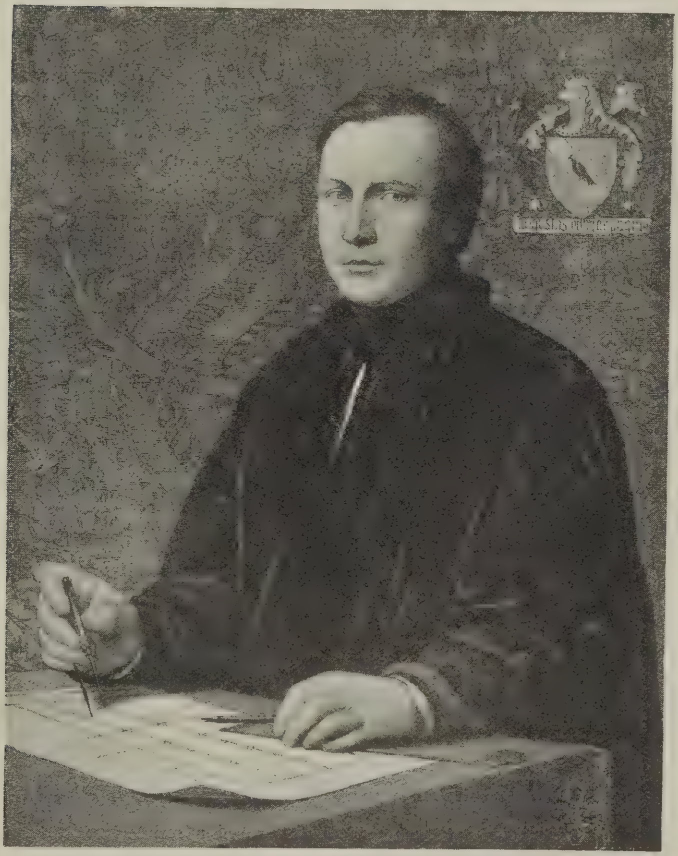
Address: 11 Tothill Street.

(*Exhibition Notices continued on page* xxxvii.)

Wednesday, April 27, 1921
Volume LIII. No. 1373

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



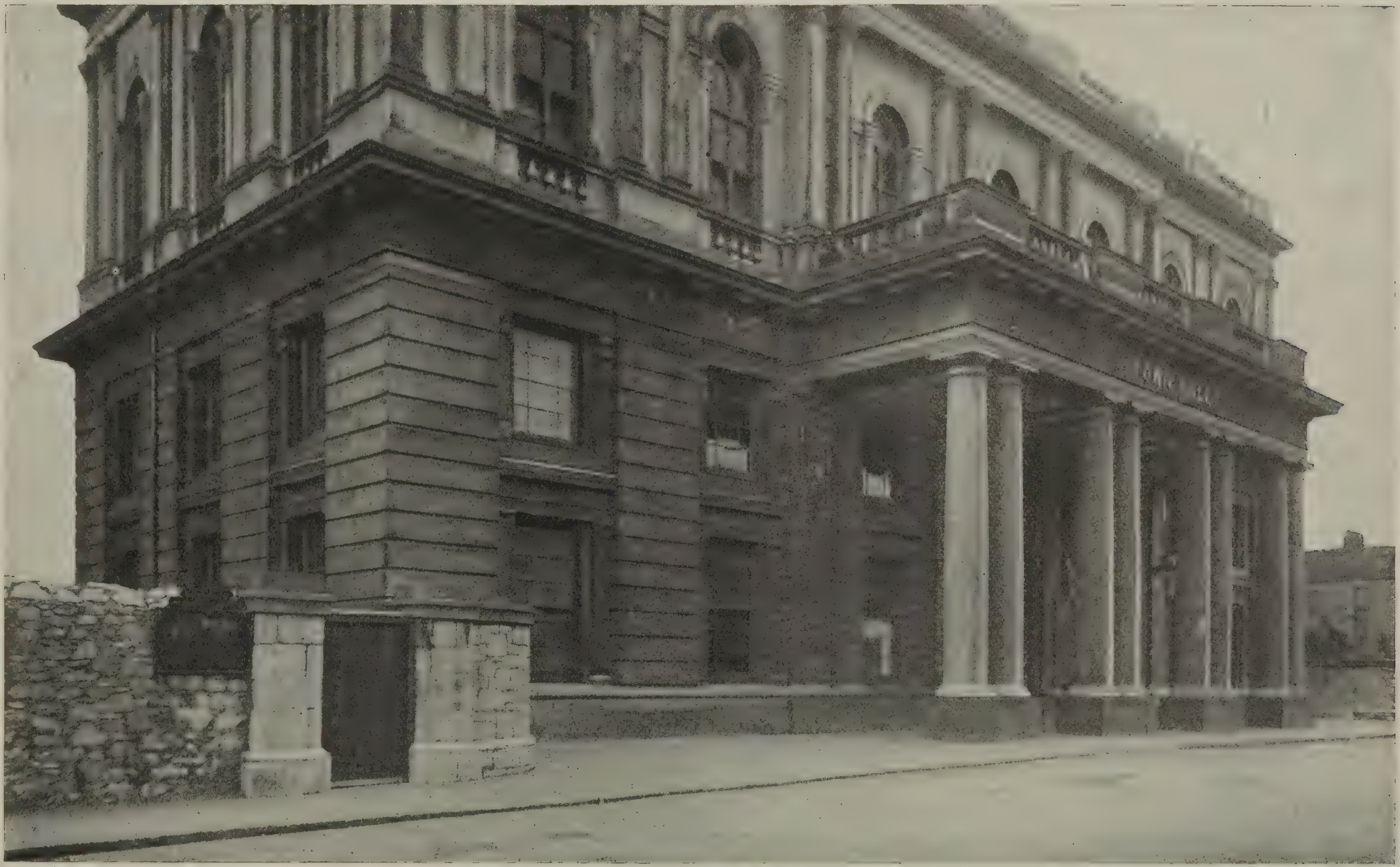
AUGUSTUS WELBY PUGIN (1812-52).

Augustus Welby Pugin was born in Store Street, Bedford Square. Educated at Christ's Hospital as a private student, he afterwards assisted his father in his work as archæologist, architect, and illustrator. After a varied and somewhat chequered early life, he settled down into architectural practice, carrying out an immense amount of work—mostly ecclesiastical. His association with Barry in the design of the detail of the Houses of Parliament was perhaps the most important incident in his later life. Passionately fond of the sea, as of Gothic architecture, he is credited with the assertion that "There is nothing worth living for but Christian architecture and a boat." Overwrought with excess of work, he was for a time confined in a private asylum, dying shortly afterwards in his own house at Ramsgate.

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth Century Architecture. 16.—The Town Hall, Stonehouse, Plymouth

John Foulston, Architect



John Foulston was responsible only for the ground- and first-floor stories of this building, the upper part having been added by his partner Wightwick. Foulston's contribution is full of masculine strength, and provides an excellent motif for future exploitation. Wightwick's addition, an emasculated version of the Italian manner, were better omitted.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, April 27, 1921 Volume LIII. No. 1373

Notes and Comments

The R.I.B.A. Election Programme

To issue a list of members nominated by the Council to stand for election as officers of the Institute is, no doubt, a very useful thing to do. The list will be valued by ninety-nine members out of a hundred for the help it affords in suggesting who should be nominated for what; the hundredth man (or woman) will regard this act of pure courtesy and practical common sense as a sinister attempt to bias the issue. Although that is a foolish and an altogether unworthy notion, a select few suspicion-haunted minds will be certain to hold it tenaciously, and will mark a somewhat frothy indignation by either refusing to vote at all, or by trying to nominate other candidates, who have for sole apparent qualification their purely fortuitous omission from the Council list. Nomination by the Council carries, certainly, considerable weight, and, by all but the super-purist, is regarded as a signal honour. As it is also, as we have remarked, a great practical convenience, academical objection to the practice is negligible, and must remain so until abuse of it can be urged with any show of probability—a contingency with which so honourable a body as the R.I.B.A. can never be associated for a moment, even in thought. But, theoretical disquisition apart, the "house-list" serves an excellent purpose as a document in some respects comparable to an agenda of proceedings. It prevents confusions and clashings, substitutes order for chaos, method for chance. It is less arbitrary, and is no more hypnotically suggestive than Bradshaw's Guide. One need neither swallow the prescription nor yield to the influence. Additional nominations may be made on the requisition of "any seven subscribing members." Such additions will certainly be made; but, being additions, they will not have the effect that original haphazard nominations would have had of overcrowding some compartments to the point of suffocation while letting others roll empty away; nor the equally embarrassing consequence of electing the round peg to the square hole.

It is not probable that the list will be very profoundly modified. Nearly every name in the proposals for members and associate members of Council is that of a member whose assistance is to be earnestly desired in the forthcoming fight for Unity and Registration; some of the newcomers—for in several divisions there are nominations "in excess of the actual requirements" (if we may be pardoned the use of the excruciating commercialism)—some of the additional nominees may be trusted to bear themselves with valour and discretion if they chance to be elected. If all were elected there would be no perceptible change in the policy of the Institute, with respect to the great task they have set themselves, and on which the strong joint committee on Unity of the Profession is deliberating: but if eighteen names only are to be returned out of twenty-two, or twenty-four out of thirty, some of the stalwarts must necessarily be unseated. One must lament them, seeing how fine a list this is, whosoever they may be that meet this unmerited fate.

What of the presidency? That Mr. Simpson would have been re-elected for a further period, if he had so willed it, there can be not the slightest doubt. We could well imagine that, for the sake of the cause he has so much at heart, he would willingly have served for a further period if he had thought that his health would have borne the strain; and it is perfectly certain that his consent to carry on would have been welcomed with acclamation—by none more heartily than by his successor to the high office which Mr. John Simpson has so conspicuously adorned. But Mr. Simpson is no doubt wise in considering that it is better to stand aside rather than risk the embarrassment that the Institute and the cause might suffer in the event of his strength proving unequal to the enormous strain to which the President of the Institute must anticipate being subjected during the coming session. As it is, untrammelled by the cares of office, he will be free to give the Council the full benefit of his invaluable experience, his wisdom in council, his courage and initiative in action, his fine imaginative outlook, his tact and urbanity. It is indeed fortunate that these are the very qualities that are most conspicuous in his successor, who will surely adorn the high office to which his distinguished father, Alfred Waterhouse, R.A., was elected some three-and-forty years ago.

The Cost of Building

An inaugural speech at an exhibition is seldom the vehicle of sound constructive policy. Mr. John W. Simpson, however, in opening the Building Exhibition, spoke to excellent purpose on various topics of current interest in the building industry. In the first place, he urged the vital importance of freeing the building industry from all Government interference. Then he took a contagiously optimistic view of the relations between employer and employed; and finally he discussed suggestively the question of building costs. One of the greatest discouragements of building is uncertainty about what it is going to cost. Persons of moderate means are disinclined to build for fear of being ruined when the bill comes in; because it may be not merely in excess of the estimate, but actually in excess of means. That was so under the old lump-sum system, in which cost was apt to be inflated by "extras"; and the "cost-plus-profit system" does not secure greater certitude. It would give an enormous impetus to building if this state of uncertainty could be promptly brought to an end and building be placed on an equality with other business transactions. Mr. Simpson suggests that a remedy lies in exact estimating, which, in normal times, is almost entirely a question of expert skill. If American "directors of building" have reduced estimating to an exact science, and can tell to a dollar how much a huge building will cost, why cannot the same accuracy be achieved in this country? It is because much of the building is done by small traders who are inexpert estimators. Large firms, of established reputation, employing highly-skilled estimators and experienced buyers, do not ruin either themselves or their clients, nor bring discredit on the architect. The whole matter of the cost of building operations, however, is ripe for authoritative and exhaustive inquiry. It is, we understand, already receiving the earnest attention of the R.I.B.A., and presumably also of the building trades organisations and of the so-called Building Trades Parliament.

Royal Visit to the Building Exhibition

It is well known that the Queen takes an extraordinarily keen interest in the housing of the people, for whose welfare she has a passionate regard. Her Majesty's visit, on April 19th, with the King, Princess Mary, the Duke of York, and Prince Henry, to the Building Exhibition at Olympia was no perfunctory ceremony. The Royal Family went there quite privately, and quite early in the morning, in order to inspect at their leisure the outstanding features of the exhibition. Technical Journals' stand was honoured with the Royal interest, and Her Majesty the Queen was graciously pleased to purchase there a copy of "The Architectural Water-Colours and Etchings of William Walcot."

The Queen's Visit to Tothill Street

On Saturday last, April 23, Her Majesty the Queen, accompanied by Princess Mary and Lady Minto, graciously honoured the Technical Journals Architectural Reading Room at 27 and 29 Tothill Street, Westminster, with a special visit. It has become necessary to mention this fact in order to make it clear that Her Majesty's sole object in paying this visit was to inspect the exhibition of Walcot etchings now on view there. Without the knowledge or consent of Technical Journals, Ltd., or of any one in any way connected with the firm, an utterly misleading account of Her Majesty's visit was circulated broadcast through the Press by some entirely unauthorised person. This account grossly misrepresents the object of Her Majesty's visit, which was for the sole purpose of inspecting the Walcot etchings, and had nothing whatever to do with the object mentioned in the newspaper paragraph, which the firm repudiate with the utmost indignation, as they had not the slightest intention of exploiting for business purposes so signal an honour, and as they consider, moreover, that the misleading paragraph is calculated to rob Mr. William Walcot of an honour that was intended solely for him.

New Academicians

Of the four elections to the Royal Academy that were announced last week, the most interesting to architects is naturally that of Sir John J. Burnet, F.R.I.B.A. In his case this honour has been long overdue. It has been richly earned. Sir John's merits have been more promptly recognised elsewhere, he having been years ago elected a member of the Royal Scottish Academy, an Hon. LL.D. of Glasgow University, an F.R.S. Ed., and an F.S.A. (Scot.), and, besides, a member of the Central Society of French Architects, Corresponding Member of the Institute of France, and a member of the American Institute of Architects. He is one of the select band of British architects who have been trained at the Paris Ecole des Beaux-Arts. Naturally much of his best work —the Clyde Navigation Trust building and the head offices of the Union Bank of Scotland, for example—has been done in Scotland, where he was born in 1857, the son of John Burnet, architect, of Glasgow; but in London his reputation stands high for such work—as the insurance building in Aldwych (1912), the Kodak building in Kingsway (1913), and, more especially, for the British Museum Extension (1905-14). The other newly elected A.R.A.'s are Mr. W. Reid Dick, the sculptor, who is also a Glasgow man owing some of his education to Paris, where he has exhibited at the Salon; Mr. F. Cayley Robinson, the painter, who also has worked in Paris; and, lastly, Mr. Augustus John, who is a member of the Royal Cambrian Academy and President of the National Portrait Society. In this particular election, Paris distinctly scores.

"Present—T-Squares"

When the Prince of Wales opened the headquarters of the new Chamber of Horticulture, last week, he was attended by an extraordinary guard of honour. Young architectural students from the adjacent schools turned out in their working smocks—surely an honourable uniform—and presented arms (their T-squares) very solemnly. High-spirited students will not be denied their little joke, which, fortunately, Prince Charming is himself youthful enough to enjoy and to accept as the act of homage it was certainly intended to be. He will have regarded it as a joyful and an exuberant recognition of his delightful amiability and limitless good-nature. This peculiar act of loyalty was doubtless impulsive and spontaneous; but somehow we cannot help wishing that the greeting had been more decorous. One ought not to play pranks, however innocent, with the heir to the throne, and one should always be careful to abstain from any act that is in the slightest degree suggestive of presuming on good-nature.

The New Director of Housing

There is some satisfaction in noting that the new Director of Housing is an architect. To all the practical qualifications that a builder could have for such a post Sir Charles Ruthen adds the very considerable advantage that he is an architect—is, in fact, President of the Society of Architects, as well as a Fellow of the Royal Institute. Not the least of his recommendations is the confidence that obviously is reposed in him by Sir Alfred Mond, with whom he took service at the Office of Works during the war. He was then Director-General of Accommodation, superintending the arrangements for housing Government Departments. Himself energetic and practical to the highest degree, he will not tolerate slackness in others, and has a faculty for "getting things done." He is sure to make his mark on the housing movement. Indeed, he may be said to have done that already, for he has very definite views on materials and construction, and has had the courage to put in practice certain economical methods of his own suggestion. There is no doubt as to his high capacity as a propulsive force, and he will be able to concentrate more dynamically since the area of operations is to partake less markedly of the nebulous and vasty vague character. Sir Alfred Mond, it is announced, proposes to carry out a new survey of the housing needs of the country, with a view to ascertaining definitely what shortage exists, and whether it will be necessary to continue the policy of subsidising housing schemes after July next year. It is very late in the day to begin this investigation, which follows very tardily the report by the Registrar-General that the housing need had been greatly exaggerated. Many of the returns issued by local authorities must have been recklessly inflated, greatly to the detriment of the building industry, which was starved with the object of stopping the supposedly insatiable maw of the housing demand. Between them, Sir Alfred Mond and Sir Charles Ruthen should, at all events, succeed in exorcising this bogey. When they have done that, there will be no further need for a Housing Department. There is no real need for it to continue to exist another week, except that it must take some time for it to clear up its own litter.

The Utility of Research on Building Materials*

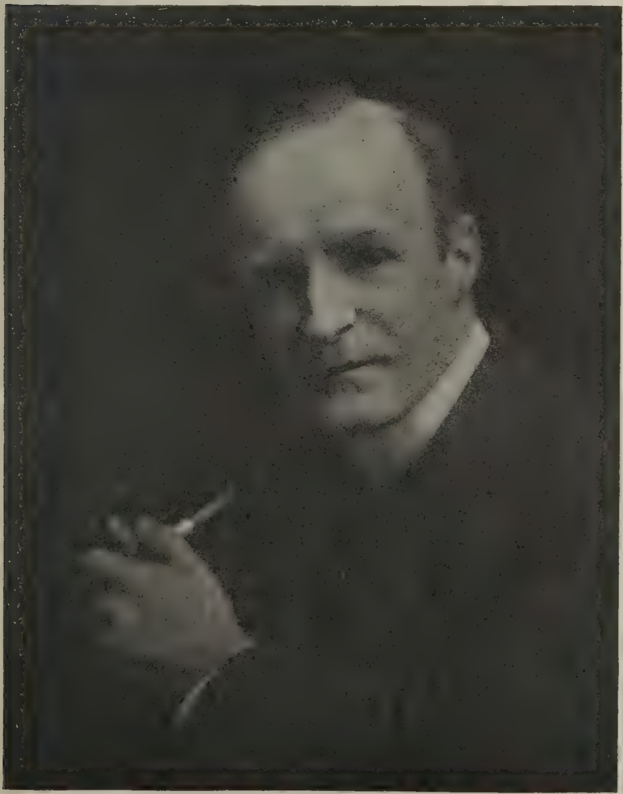
By ALAN E. MUNBY, M.A. (Cantab.), F.R.I.B.A.

THOUGH the subject of my paper is, I think, the outcome of suggestions made by our Science Standing Committee, the title is not of my choosing, and as I am not quite sure whether it carries a note of interrogation or whether, the utility of research being agreed, I am merely expected to elaborate the subject, it is perhaps necessary to begin by discussing what part and lot, in a present-day practice, the architect has in dealing with materials from a scientific aspect.

Undoubtedly the chief attribute of an architect is the power to create buildings clothed with monumental dignity or gracious charm which shall uplift the beholder and help to quicken his artistc senses, which in these modern times have such sparse opportunities for development. Every one will concede this, and even the most soulless designer cherishes the hope that his elevations may meet with commendation. It is undoubtedly because of this universal acceptation of the essential characteristics of an architect that the leaders of the profession are, rightly, the great artists. They have, however, as leaders, a trust to discharge to the profession in all its aspects, and there is probably no calling which covers so wide a field, for an architect is expected to be equally ready to test a drain as to design an altar cloth, or to arrange for the installation of electrical plant as to create a monumental façade.

It is not to be supposed that ability in all these diverse spheres can be equally developed in one individual; many of them are, if not antagonistic, at least somewhat incompatible with temperaments usually specially developed in some particular direction. Nevertheless, as we are constituted we do accept responsibilities covering these wide fields, and though a kind providence seems to keep the feet of many to certain paths best suited to their capacities we must, in the nature of things, all involve ourselves in responsibilities for materials in the creation of structures, not mere products of the drawing-board, but, in all but a few cases, utilitarian realities for human occupation.

DETAIL OF DRY ROT MERULIUS IN FRUITING STAGE.
In this case the fungus has penetrated a brick wall 3 ft. 6 ins. thick.



MR. ALAN E. MUNBY, M.A. (CANTAB) F.R.I.B.A.

Decay of Stone

Public interest has been lately much aroused on the question of the decay of stone in our national buildings. Our Science Committee has had this subject in hand, and, thanks to the generous co-operation of H.M. Geological Survey, the results of a ten years' exposure test on a number of common building stones are now under consideration. Most freestones take a skin hardness after quarrying, due possibly to the deposition of solid bodies near the surface on the evaporation of the "quarry sap." This skin once removed never seems capable of replacement, and there is always a danger, in applying solutions or chemicals which result in precipitation, of obtaining a skin which by further disintegration becomes detached from the stone, leaving it worse than before. Probably the physical characters of stone are more important than chemical differences in composition.

Bath and Portland stone are very similar chemically, and are both oolitic, and it may be left to the mineralogist and crystallographer to explain the great difference in their weathering properties. Again, compactness is no criterion of durability; for example, Ketton stone, with its large, rounded grains, weathers in town atmospheres better than some stones more dense in character. The durability of a stone often depends much more on the character of a small percentage of cementing material than on that of its main ingredients. Scientists have yet told us little about the real meaning of adhesion and cohesion, and we seem a long way from any standards by which to measure these important properties.

Roofing Tiles

We are all conversant with the disastrous defects which often occur only after some years in roofing tiles. This subject again our Science Committee has been endeavouring to tackle, and has collected a number of defective samples, thanks largely to the assistance of Mr. Greville Montgomery. A careful report is wanted on the conditions of manufacture and an investigation into the subject of shelling, lamination, and the effect of slope angles and climatic conditions. Why should the old tiles last 150 years, while many modern ones are hardly able to stand a single decade?

---

* Extracts from a paper read before the R.I.B.A. last week.

The wonderful condition of certain old tiles after a century of wind and weather is ascribed by some to the mellowing of the clay before use. This mellowing can only mean disintegration and chemical changes, including the removal by solution of undesirable ingredients, and there seems no reason why the chemist should not seriously take up this subject with a view to removing the loss and embarrassments resulting from defects in composition. As regards pressed tiles, it must be remembered that almost any substance tends to laminate under pressure: even such a homogeneous material as wax will show this effect. It would be interesting to discover whether any relation exists between durability and plasticity, a property much influenced by hydrated oxide of iron and carbonaceous matter as well as by the amount of true clay substance—kaolin. Bricks used in such vast quantities require more attention as regards impurities such as appreciable fragments of lime and objectionable soluble sulphates. The danger of lime in bricks and tiles, of course, arises from the great expansion resulting in the presence of moisture. When in minute fragments the porosity of the material is usually sufficient to admit of this expansion, but when lime is present in pieces of appreciable size cracking or bursting must result. Lime cartridges, indeed, were used before the days of gunpowder for blasting. Fortunately lime is very easily detected.

Diseases in Timber

Timber in its converted condition is a material upon which many researches are urgently needed. Here, however, we have an organic edible substance open to the ravages of insects and fungoid growths. Our Science Committee is making what will, I hope, prove a valuable investigation into the storage conditions of timber, and after the submission of its report to the Council it is to be hoped that, if this course seem justified, this Institute will press for legislation to improve and control conditions of timber storage. Meanwhile we want an organised body of whole-time workers prosecuting researches into the entire subject of diseases in converted timber, and probably few national investments would pay better. At the instance of the Science Committee the Council brought this subject to the notice of the Industrial Research Department a very short time after the formation of this body. This should be regarded as a national problem and should not be relegated to trade associations interested in producing some protected specific or even to State-aided private workers. In dealing with a material the total annual value of which is over 80 millions, it would not seem unreasonable to ask for a quarter of a million to provide and endow a suitable institute. We want first a ready means for detecting spores of Merulius and Polyporus, an investigation into distribution of the disease, which is known to be specially prevalent in certain districts, and then the consideration of regulations which shall bring this infection under control. Is there any real reason why this disease should not be virtually stamped out, and could not this be effected by the Board of Agriculture and the Board of Trade when the mycologists have told us more? The other end of the disease problem is the production of timber so treated and seasoned that it will better resist decay.

There are, of course, a great many other aspects of timber which merit investigation. Many woods grown in our Empire overseas are little known and merit exploitation. The Imperial Institute Advisory Committee on Timber, under the chairmanship of one of our Fellows, is doing excellent work in this direction. At present it would appear that freight costs are against many of these timbers, but it would seem desirable to give them some form of preferential treatment, more especially as the Russian market appears likely to be uncertain for a considerable period.

Metals and Paints

With regard to metals, Mr. Munby said that the discovery of a metal strong enough for structural work and cheap enough for use which would resist atmospheric corrosion and therefore would not require the services of the painter did not seem an impossibility, and such a discovery would be worth many years of well-paid research work. Even if an alloy research failed some skin treatment at the time of manufacture might prove effective. Paints and varnishes, he said, need more experimental work. For example, experiments made some years ago in America showed that in two similar paints the size of the solid particles were respectively 125 and 2,500 to the linear inch, and that the latter had twice the durability of the former. Oxide of iron paint in oil varies in price more than 50 per cent. according to quality, but very slender means exist for ensuring that we get the best when we demand it.

The solid body matter in a paint possibly bears some resemblance to the aggregate in a concrete, the oil acting as a vehicle and binding material, and if we want our paints to resist weather it does not seem unreasonable to use our experience of concrete as an analogy. It has been proved that aggregates to resist moisture must be composed of particles of varied size, and it seems not unlikely that this would prove true of paint bases. Moreover, varied size in aggregate particles makes for greater strength. A thin elastic film of dried oil may not be comparable with crystallised lime, but there are some who hold that even the setting of cement is entirely due to colloidal or glue-like bodies.

Our Research Committee started an investigation on the improvement of pavement lights and, through the kindness of an optical expert and the makers, samples of a new glass have been exposed in a London pavement for three years. The results of this experiment do not promise to be satisfactory, but it should really now be possible to produce a transparent medium able to resist abrasion, which would result in great improvement to much basement property.

These are but a few of the problems which deserve attention, but many others suggest themselves, as, for example, proprietary plastic floor and wall coverings, which should at least be guaranteed not to contain certain injurious ingredients. Again, such subjects as the acoustics of buildings, to which study a special institute is devoted in America and, I believe, also in Germany, though strictly outside the scope of this paper, demand much elucidation.

Discussion.

Sir Richard Glazebrook (the late Director of the National Physical Laboratory, Teddington) moved the vote of thanks, and among the other speakers were Sir E. Ray Lankester, Mr. H. O. Weller (Chairman of the Building Research Board), and Mr. J. Allen Howe (Curator of the Geological Museum).

Sir Ray Lankester pointed out that it would be impossible for the already overburdened architect to undertake the work of investigation itself, and suggested that the proper thing would be for the profession to pass its problems to an institution that could consider them at leisure.

Mr. Weller said that his Board did not set out to tackle problems itself, but was only a clearing-house, and in every case that was brought before it an expert was asked to investigate it. An experimental station was now being built for the Board at East Acton, where it was expected much good work would be done.

Architectural Causerie

What's in a Name ?

TO such as have not outlived an infantile relish for the peculiar aura and penumbra of a surname, the R.I.B.A. Council Nomination List presents one or two opportunities for mild indulgence in that appetite. To begin with the first name on the list, "Waterhouse" — *nomen clarum et venerabile* — one forgets its face value, whatever that may be, in remembering what it stands for in art and history. From 1888 to 1891, Alfred Waterhouse, R.A., who in 1878 was Royal Gold Medallist, was President of the Institute; and the Waterhouse who is now virtually President-elect is his eldest son, and therefore the inheritor of gracious and fragrant memories. This is the first instance in which father and son will have occupied this position; although one or two names occur to one as being in process of qualification to compel history to repeat itself. What one would particularly like to see would be the ex-President listening to his son's presidential address. Such a scene has been possible in the case of the Architectural Association, of which a former President, Sir Aston Webb, R.A., could have gathered pearls of wisdom from the lips of Major Maurice E. Webb speaking from the chair. May the incident develop into a function more definitely assuming the Grand Manner! And may Waterhouse III. emulate his sire and his grandsire in attaining to the Presidency of the Institute!

Distinguished Candidates

Other observations on the names in the Council Nomination List are in lighter vein. Four nominations to vice-presidency are made, and these, rather curiously, make a "flush of four" as regards alphabetical order—A, B, C, D—Adshead, Buckland, Cross, and Dawber—a sequence that might happen easily with three names brought together without malice aforethought; but to expect four together without hiatus is to be rather sanguine about the doctrine of chances. Another superficial observation is that the list is rather rich and varied in distinctions, Service and civilian. Two knights and a Member of Parliament are standing for the Council; and another knight, who is also R.A. and Litt.D., is nominated as one of the two Past Presidents, the other being Membre Corr. de l'Institut de France. R.A.'s are three, and there are an A.R.A. and an R.B.A. Military distinctions are few but brilliant—D.S.O., M.C. (thrice). There are a C.B.E. and an O.B.E., and there is a Croce di Guerra. Of F.S.A.'s there are half-a-dozen save one. Of M.A.'s of Oxford there are four, and they are greatly outnumbered by the Cambridge men, of whom there are ten. There is but one London B.Sc. confessed; Liverpool and Manchester Universities are represented, the former by two or three graduates, the latter by one. There is, strange to say, an M.Inst.C.E. There may be other distinctions that have escaped our scrutiny; but there is one unique distinction that has not. One of the nominees for the Literature Standing Committee is a lady—God bless her!

Black Ceilings

Black ceilings? At first flush the idea seems rather ridiculous; yet the time is coming, perhaps, when black ceilings—for bedrooms in any case—will be a conventional feature of every house. It is generally forgotten that plain whitewashed ceilings date from the early Victorian period, when, as a result of the heavy hangings and curtains then the mode, it was absolutely essential to have a large expanse of reflecting surface in order to get any light into the rooms at all. With the departure of the gloomy trappings of the Victorian era the need for the whitewashed ceiling has also disappeared. The consequence is that to-day the average room of the average house is, if anything, rather glaringly bright. We may not, perhaps, realise very vividly that this is so, but there seems to be little doubt about it; those who have made a scientific study of the subject tell us that it is this unrelieved brightness, affecting the sensitive retina of the eye, that is the cause of a proportion at least of our nervous ailments. Far too little attention has hitherto been paid by English architects to internal colour decoration, but we believe that the time is not far distant when the colour treatment of wall and ceiling surfaces will be part and parcel of everyday architectural practice. A great deal of attention has been given to the subject in America, and the movement has made far greater progress there than it has on this side of the Atlantic. We hear of decorative schemes carefully worked out for different rooms—of wall and ceiling surfaces coloured to suit different purposes, situations, and aspects. Black ceilings, it seems, are the very thing for bedrooms where, the essential purpose being repose, it is obvious that a white surface directly opposed to the eye is exactly the opposite of what is required. We do not suppose that black ceilings, so far as this country is concerned, are properly appropriate to any room but a bedroom, for in this dull northern clime we want as much light as possible in our rooms, provided that the quality is correct; but even for such apartments as dining-room, drawing-room, library, or study, there is no real necessity for a white ceiling. In such cases a sufficiently efficacious reflecting surface might be provided by something less distractingly brilliant—pale shades of grey or blue, for example. In colouring our ceilings we should be doing nothing new or original—merely reverting to a practice abandoned somewhere about the beginning of last century.

Housing Schemes in Bedfordshire

Some of the new cottages designed for the villages near Bedford are on good lines. Near Elstow every attention has been given to ensure a tasteful result. At Campton, Shefford Broom, and Girtford the tendency to standardise has been carried to extremes. At Barton-in-the-Clay, on the main London Road, the back elevations of the new houses are less pretentious, and therefore more satisfactory than the fronts. The designs of cottages and small houses present many difficulties other than those of planning. The majority are too architectural in line, too self-conscious in character, too prim, and too exact.

The Origin of Double Elephant Paper

Architects who use "Whatman" paper do not, as a rule, associate the history of paper-making with the water mills, many of them derelict, in the Home Counties. In the fifteenth century there was a paper mill at Stevenage, in Hertfordshire, kept by one John Tate; a century later, to be precise the year of the Armada, a ten years' licence was issued by Queen Elizabeth to one Spielman to make paper at Dartford. From that time to the present Kent has been noted for the excellence of its paper. At the middle of the eighteenth century the demand for larger sheets of drawing and other paper caused John Whatman to start mills at Maidstone in 1760. Prior to this date artists and architects used to work upon a species of drawing-table called an elephant. Many of these tables can be seen in antique collections to-day, some with candle brackets and ink drawers undamaged. It is conceivable that the sheets of drawing paper made for these elephant tables formed the basis of unit size, and when the demand came for larger sheets the obvious thing was to "double the elephant."

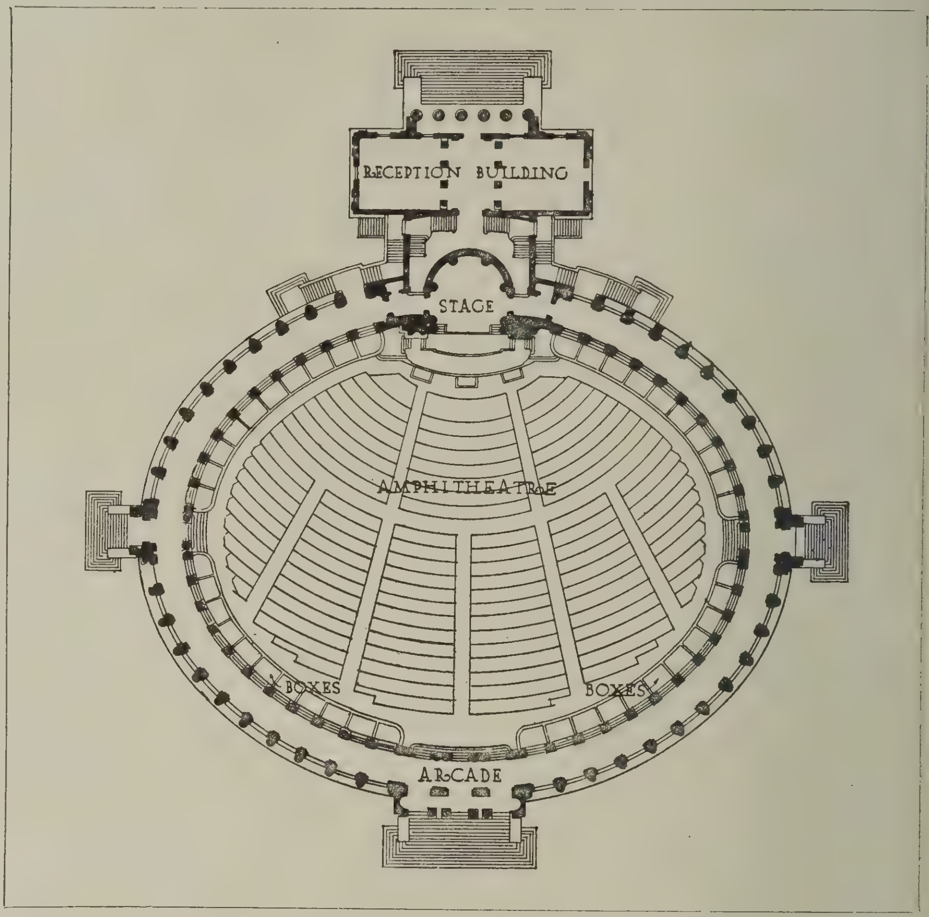
A War Memorial Amphitheatre

THE Memorial Amphitheatre, in the National Cemetery at Arlington, Va., is something more than a memorial to those who fought in the recent war, being rather a national shrine to the memory of all Americans, whether soldiers or sailors, who have fallen in the various wars in which the United States have been engaged.

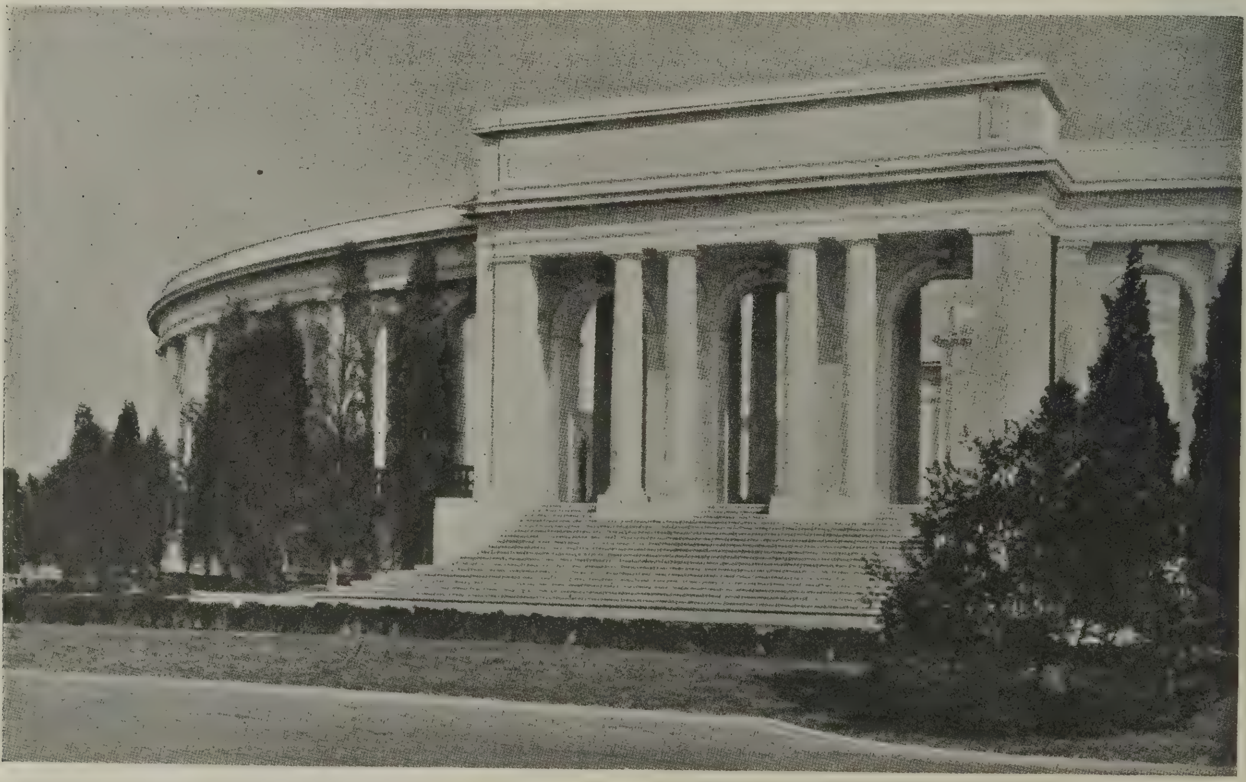
The memorial has been given an excellent setting not far from the Maine monument, and is approached from the Potomac River by a wide roadway, which divides immediately in front of the building, and surmounts the terrace which forms a base for the amphitheatre. As one approaches the memorial it presents an appearance which is impressive and monumental. Against a background of foliage there stands the retaining wall of the terrace, and just above appears the reception pavilion, with its classical portico, at the sides of which appear the columns and arches which surround the amphitheatre proper, and which are united at the opposite side by a monumental entrance from which leads a flight of marble steps.

Within the entrance portico is a sculptured frieze showing trophies of war and other symbols. The interior of the reception pavilion is a great room faced with white marble and with a gallery at either side supported upon marble columns. This reception hall, or gallery, is intended to serve as a place for the entertainment of distinguished visitors upon suitable occasions and for the exhibition of battle flags, portraits and other trophies and relics.

Since it may be necessary at times to use the reception hall for gatherings of a some-



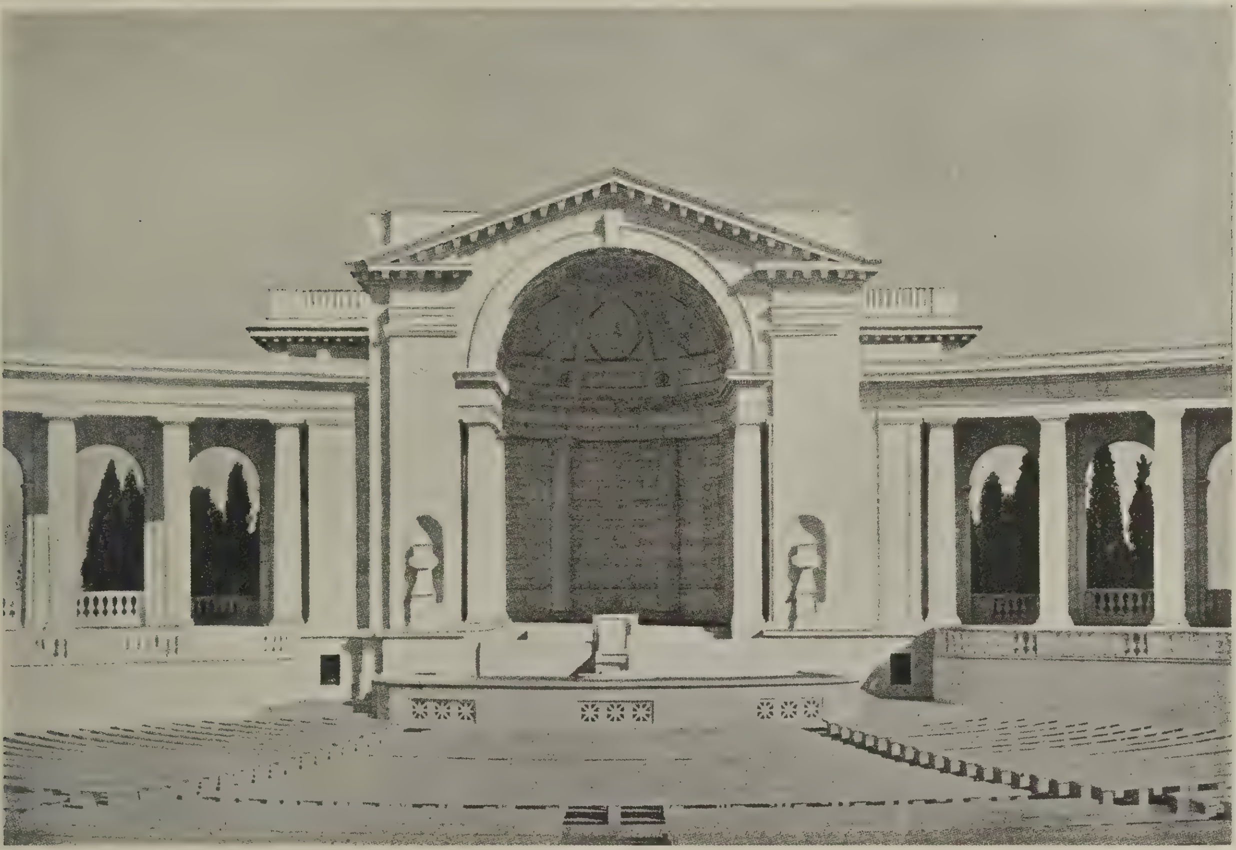
PLAN OF ARLINGTON MEMORIAL AMPHITHEATRE.



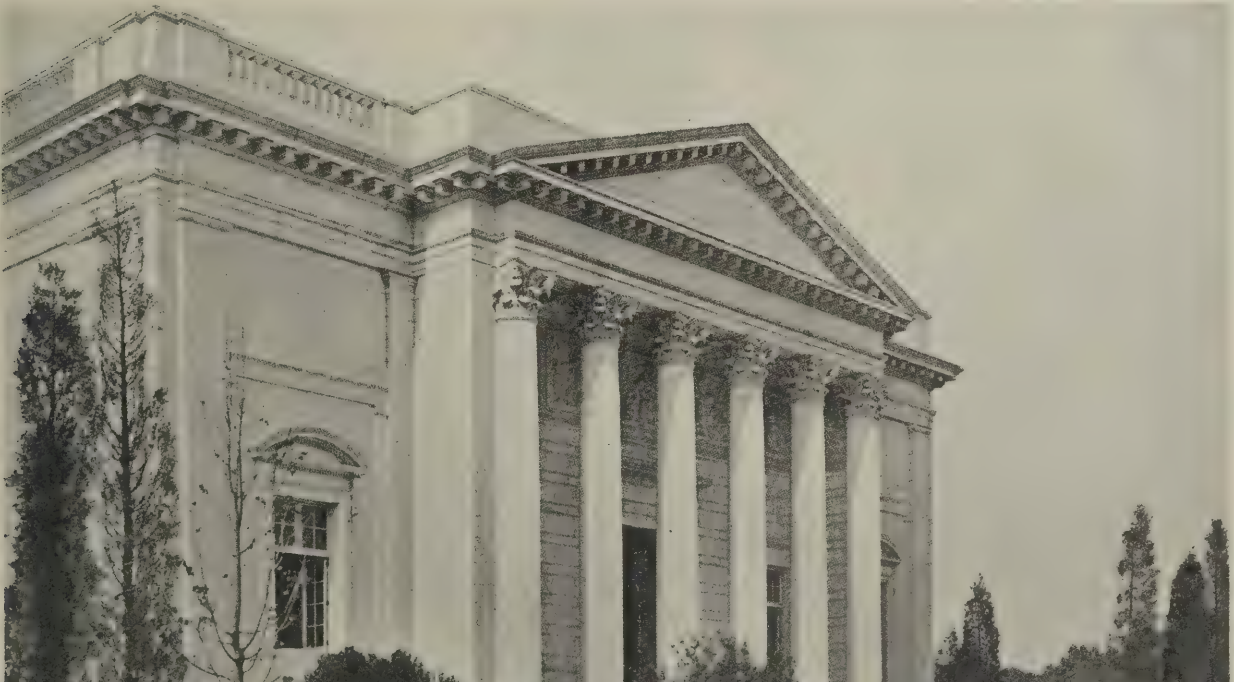
MEMORIAL AMPHITHEATRE AT ARLINGTON, VIRGINIA: DETAIL OF PRINCIPAL ENTRANCE IN COLONNADE.
CARRÈRE AND HASTINGS, ARCHITECTS.

Modern American Architecture. 19.—Memorial Amphitheatre, Arlington, Virginia

Carrère and Hastings, Architects



Detail of Stage.



Entrance to Reception Pavilion.

This very dignified memorial amphitheatre is intended to serve as a national shrine to the memory of all Americans who have fallen in the wars in which the United States have been engaged. The monumental manner is here employed with considerable effect. A full description of the work is given in this issue.

what different nature, provision has been made for serving luncheons, and the necessary kitchens and service rooms are installed. Just beyond are corridors and stairways leading to the stage of the amphitheatre proper. The stage is semi-circular in form and is covered with a half-dome roof which is richly carved. On either side are piers upon which are inscribed the names of eminent warriors. Appropriate inscriptions are cut upon the frieze around the stage and also upon the arch facing the amphitheatre. The stage is built upon three levels and will seat almost one hundred people. Beneath the stage is a mortuary chapel with a domed ceiling and raised ambulatory. It is intended that this chapel shall be sometimes used for funerals or commemorative services when the number of people attending is not large, and it has been arranged to seat 150.

The arcade, which is a striking feature of the memorial as seen from the approach, encircles the amphitheatre, which is elliptical in form. Marble benches will seat 4,000, and in the boxes within the bays of the arcade 500 more may be seated; the arcade also allows standing room for about 1,000, so that some 5,500 people in all may be accommodated at one time. Beneath this encircling arcade there are 300 crypts, in which are to be placed the remains of the nation's distinguished soldiers and sailors.

In front of each crypt and in the pavement of the arcade directly above will be inscribed the names of those buried there. Upon the outer cornice of the arcade there are forty-four panels, in each of which is inscribed the name of some important battle in which the army or navy of the United States has been engaged, beginning with the early battles of the revolutionary war and including the most important engagements of the war just ended.

In the construction of the Memorial Amphitheatre care has been exercised in selecting the best qualities of materials and making use of the most approved methods of building. Foundations throughout have been laid of concrete and brick with steel used as reinforcement, and steel has also been employed in building the floors and roof of the reception pavilion. The retaining wall, which faces the Potomac River, and which extends across the main front of the memorial, is faced with granite from the Fox Island quarries, and the exterior of the building proper and the encircling arcade or colonnade is built of marble from the quarries at Danby, Vt., carefully selected for its whiteness and even texture. For interior construction considerable use has been made of Botticino marble in floors, columns, and cornices, and in certain other instances.

[For the foregoing particulars, together with the illustrations given in this issue, we are indebted to our Transatlantic contemporary, the "Architectural Forum."]

An Indictment of Stereotyped Building Acts

By A. ALBAN H. SCOTT

I FEEL quite sure that you will agree with me that this is a subject for which no apology is required for introducing, when it is taken into consideration that about sixty districts in England are working with building by-laws confirmed before 1871, some even so far back as 1859. In one town with a population of 150,000 the building by-laws were confirmed in 1867.

To show how urgent even Government Departments consider the necessity for modification [of building by-laws], it is desirable to remind you that even so far back as 1909 in one of the Housing and Town Planning Acts the Government inserted a clause that if the erection of houses was unreasonably impeded by building by-laws the L.G.B. had power to require the removal of such by-laws, and immediately the present housing programme was initiated a clause was at once introduced that all building by-laws would be waived. If such a clause is admittedly necessary for cottage construction, how much more is it necessary for larger buildings and building schemes for commercial industries?

Multitude of Authorities

We have in England approximately 1,600 authorities administering building laws, which means somewhere about 2,000 surveyors, plus building and sanitary inspectors. It will be at once seen how many possible interpretations of the by-laws are possible. Fortunately in London we have at the present moment great hopes that the building by-laws will be administered in a more humane spirit, with the object of helping to accelerate progress and allowing, as far as the present laws permit, the introduction of new methods of construction.

One appreciates highly that broad spirit of helpfulness from the officials that we are now getting from the London area; but even in the very best districts, particularly in our larger towns, there is so much red tape and unnecessary procedure that not only does the actual building cost considerably more, but the cost of administration must be excessive.

As one example of what I have in mind, there is one city which approves under their by-laws a certain form of iron fire-resisting door, and although for many years past they have approved of another form of door, if it is desired to use this new standard door a fresh application has to be made, with detailed drawings for each case, and I do not think I am in any way exaggerating in stating that there must be at least 5,000 applications and approvals for the same identically constructed door, with one authority only.

Time-Wasting Regulations

As you know, in London, as soon as plans have been deposited with the district surveyor, building operations can commence, but under urban and rural districts they are only compelled to give approval or disapproval within thirty days. This causes a very great wastage of time, particularly when one is anxious to proceed with the building during the summer months, and also gives in certain districts the opportunity of waiting until the end of nearly thirty days, when the plans are calmly disapproved owing to the fact that one small length of drain is not shown as desired by that particular committee.

Of recent years it has been noticed to a very considerable extent that individual surveyors permit of deviation from certain restrictions which are in force, but they nearly always state that it is extremely difficult for them to allow building owners to depart from definitely laid down regulations. Unfortunately, in many of our rural and urban districts these by-laws are actually administered by the members of the local Council, their attitude being similar to a smug and pompous Victorian parent regarding the poor child, "Building Owner," as something that should wait anxiously and reverently until every obscure by-law has been duly complied with, by which time possibly the industry for which the building was intended to be used has passed away to foreign lands. Unless the building laws are in the very near future made to suit present and future requirements we shall, without doubt, owe our children our sincere apologies.

The building industry to-day is in a similar position to that of the motor trade only a few years ago, when it was compulsory for a man with a red flag to walk in front of any mechanically propelled road vehicle. When one realises the progress made in the motor world—to-day I believe nearly one million mechanically propelled road vehicles are in use—one foresees that if, after the red flag is removed from building, progress is made at only half the relative rate, those who are advocating these revisions will be more than satisfied.

In the past this very dry subject of building by-laws has been more or less confined to the technical world, but it is necessary that the building owners and the public generally should realise that they are the people who actually suffer in the end.

It is contended that we must make our building laws so that every advantage can be taken of our progressive scientific knowledge. Some opponents to the radical alteration of by-laws suggest that our present by-laws can be amended from time to time. When one remembers that it took a certain large city about five years to get an important regulation through to its final conclusion I do not think that we can put much hope in this method.

Elasticity Necessary

The regulations governing the construction of building must be elastic and capable of the practical application of our latest knowledge. It is suggested that as there is opposition to the cancellation of the by-laws altogether, these should be left exactly as they are, and a special short one or two clauses Act should be passed making it compulsory throughout the whole kingdom to have still another by-law as follows:

"That, notwithstanding anything to the contrary in any of the Building Acts, by-laws, or regulations in force, it is permitted for a building owner to construct any building of any form of construction and any material, provided it is proved to the reasonable satisfaction of the local surveyor that the method and materials

---

* Extracts from a paper read at a luncheon given by the Concrete Institute at Olympia on April 19.

proposed are of sufficient strength and the structure is of sufficient stability to perform the work intended. In all cases such work shall be designed on recognised engineering formulæ. If there should be a difference of opinion between the building owner and the local council on any point under this by-law, such difference shall be referred to a tribunal (which should be appointed by the Ministry of Health), and the decision of this tribunal shall be final and binding on all parties." There would also have to be provision made that reasonable precautions are taken against fire risks, and reasonable sanitary requirements maintained. At the same time, a clause should be inserted dealing with the question of building frontage lines, this more particularly being an urgent necessity in districts outside the very large towns. In making an application to the tribunal, I think it will be necessary that both the building owner and the local council should deposit a sum of, say, ten guineas each to prevent frivolous applications. It should also be in the power of the tribunal to withhold the return of such deposit to either or both parties, and this would have the effect that no building owner and no local surveyor would allow application to be made unless it was a genuine case for appeal.

Economical Supervision

In putting this scheme forward consideration has been carefully given to the fact that no additional expense would be incurred in supervision, and, indeed, it would eventually mean that there ought to be a reduction in the staff of the administering architects and surveyors.

It has been suggested by one Government Department that if such a tribunal was instituted it would be snowed under with applications. I beg to submit that if such a condition did arise this itself would be the strongest point for making our building laws more elastic. Also the same department asked if any other country had taken the step suggested above. I have yet to learn that it is Britain's place to play second fiddle to any other country in the development of its industries. We must give that freedom to the building world which is its due. A possible alternative method would be to make it possible for the Ministry of Health to have power to require the cancelling or modification of any by-law, if they were satisfied that it had become unreasonable or if it did not secure the object for which it was intended.

Powers of the L.C.C.

I am quite aware of the fact that in London, for instance, the superintending architect has power to waive certain clauses in his discretion, and it is a very great pity that these waiver clauses are not more frequently made, but it is also startling to find that the L.C.C. in forming regulations can, according to their ruling, over-ride the waiver clause given by Act of Parliament.

There is no institution or association more capable of realising the remarkable progress with concrete during the last few years than the Concrete Institute, and when the greatest city in the world is working under by-laws more than forty years old regulating concrete, I think it is hardly necessary for me to put the case any more strongly as a preliminary appeal for consideration for allowing the building trade to obtain that freedom which is vital to development.

R.I.B.A. Nomination List for Council and Standing Committees

Following is the list of members nominated for the Council and Standing Committees of the R.I.B.A for 1921-22.

PRESIDENT:

One name only to be returned.

Waterhouse, Paul, M.A. (Oxon), F.S.A.

VICE-PRESIDENTS:

Four names only to be returned.

Adshead, Professor Stanley Davenport, M.A. (Liverpool).
Buckland, Herbert Tudor.
Cross, Alfred William Stephens, M.A. (Cantab.).
Dawber, Edward Guy.

HONORARY SECRETARY:

One name only to be returned.

Keen, Arthur.

MEMBERS OF COUNCIL:

Eighteen names only to be returned.

Ashley, Henry Victor.
Barnes, Major Harry, M.P.
Cave, Walter.
Clarke, Max.
Davis, Arthur Joseph.
Fletcher, Sir Banister Flight.
Fletcher, Henry Martineau, M.A. (Cantab.).
Forrest, George Topham.
Gibson, James Glen Sivewright.
Green, William Curtis.
Hall, Edwin Stanley, M.A. (Oxon.).
Hall, Herbert Austen.
Harris, Emanuel Vincent.
Lanchester, Henry Vaughan.
Lucas, Thomas Geoffry.
Lutyens, Sir Edwin Landseer, R.A.
Peach, Charles Stanley.
Perks, Sydney, F.S.A.
Riley, William Edward, R.B.A., M.Inst.C E.
Scott, Giles Gilbert, A.R.A.
Webb, Maurice Everett, M.A. (Cantab.). D.S.O., M.C.
Woodward, William.

ASSOCIATE-MEMBERS OF COUNCIL:

Six names only to be returned.

Bradshaw, Harold Chalton, Croce di Guerra.
Hamp, Stanley Hinge.
Harrison, James Stockdale (Leicester).
Slater, John Alan, M.A. (Cantab.).
Solomon, Digby Lewis, B.Sc. (Lond.).
Waterhouse, Michael Theodore, M.C.
Welch, Herbert Arthur.
Worthington, John Hubert, M.A. (Manchester).

PAST PRESIDENTS:

Two names only to be returned.

Blomfield, Sir Reginald, R.A., Litt.D.
Simpson, John William, Membre Corr. de l'Institut de France.

REPRESENTATIVES OF ALLIED SOCIETIES:

Nine names only to be returned.

(These names will appear on the Balloting Paper.)

REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION (LONDON):

One name only to be returned.

Newton, William Godfrey, M.A. (Oxon.), M.C.

ART STANDING COMMITTEE:

FELLOWS: Ten names only to be returned.

Baker, Herbert.
Cave, Walter.
Coleridge, John Duke.
Cox, Alfred.
Downing, Henry Philip Burke, F.S.A.
Forsyth, William Adam.
Hiorns, Frederick Robert.
Joass, John James.
Lutyens, Sir Edwin Landseer, R.A.
Newton, Ernest, C.B.E., R.A.
Oliver, Basil.
Ricardo, Halsey.
Richardson, Professor Albert Edward.
Simpson, Frederick Moore.
Sirr, Harry.
Tapper, Walter.
Warren, Edward Prioleau, F.S.A.
Webb, Maurice Everett, D.S.O., M.C.

ASSOCIATES: Six names only to be returned.

Davidge, William Robert.
Farey, Cyril Arthur.
Lovell, Percy Wells, B.A. (Cantab.).
Waterhouse, Michael Theodore, M.C.
Webb, William Arthur.
Welford, Arthur.

LITERATURE STANDING COMMITTEE:

FELLOWS: Ten names only to be returned.

Ambler, Louis.
Briggs, Martin Shaw.
Corlette, Major Hubert Christian, O.B.E., R.B.C.
Fletcher, Henry Martineau, M.A. (Cantab.).
Green, William Curtis.
Hall, Edwin Stanley, M.A. (Oxon.).
Hall, Herbert Austen.
Moberly, Arthur Hamilton, M.A. (Cantab.).
Ramsey, Stanley Churchill.
Statham, Henry Heathcote.
Townsend, Charles Harrison.
Ward, William Henry, M.A. (Cantab.), F.S.A.
Waterhouse, Percy Leslie, M.A. (Cantab.).

ASSOCIATES: Six names only to be returned.

Bagenal, Hope.
Bradshaw, Harold Chalton.
Budden, Lionel Bailey, M.A.
Charles, Miss Ethel Mary.
Edwards, Arthur Trystan, M.A. (Oxon.).
Sayer, Charles Edward.
Slater, John Alan, M.A. (Cantab.).
Worthington, John Hubert, M.A.

PRACTICE STANDING COMMITTEE:

FELLOWS: Ten names only to be returned.

Ashley, Henry Victor.
Chatterton, Frederick.
Clarke, Max.
Cross, Alfred William Stephens, M.A. (Cantab.).
Forrest, George Topham.
Hunt, William George.
Jones, William Campbell.
Joseph, Delissa.
Keen, Arthur.
Mathews, Henry Edmund.
Peach, Charles Stanley.
Perks, Sydney, F.S.A.
Satchell, Herbert Arnold.
Slater, John.
Tatchell, Sydney Joseph.
White, William Henry.

ASSOCIATES: Six names only to be returned.

Cubitt, Horace William.
Emerson, Harry Valentine Milnes.
Gammell, Kensington.
Golding, Herbert Haylock.
Hawkins, Percival William.
Hutchinson, Charles Edward.
McLachlan, Charles.
Scott, John Douglas.
Solomon, Digby Lewis, B.Sc. (Lond.).
Welch, Herbert Arthur.

SCIENCE STANDING COMMITTEE:

FELLOWS: Ten names only to be returned.

Adams, Harry Percy.
Ayling, Robert Stephen.
Clay, George Felix Neville, M.A. (Cantab.).
Crompton, William Edward Vernon.
Franck, James Ernest.
Hooper, Francis George Fielder.
Munby, Alan Edward, M.A. (Cantab.).
Russell, Samuel Bridgman.
Saul, Henry Albert.
Searles Wood, Herbert Duncan.
Shepherd, Herbert.
Smith, Ravenscroft Elsey.
Unwin, Raymond,

ASSOCIATES: Six names only to be returned.

Angel, Robert John.
Burrows, Henry William.
Daubney, Charles Archibald.
Elkington, George Leonard.
Hamp, Stanley Hinge.
Markham, John Hatton.
Searle, Norman Odell.
White, Theodore Francis Hansford.
Woodward, Charles.

The Architects' Welcome Club Reception

One of the most successful events promoted by the managers of the Building Exhibition was the joint reception for architects and their friends, which was arranged by the Royal Institute of British Architects, the Society of Architects, and the Architectural Association, and took place in the Pillar Hall on the afternoon of the 16th inst.

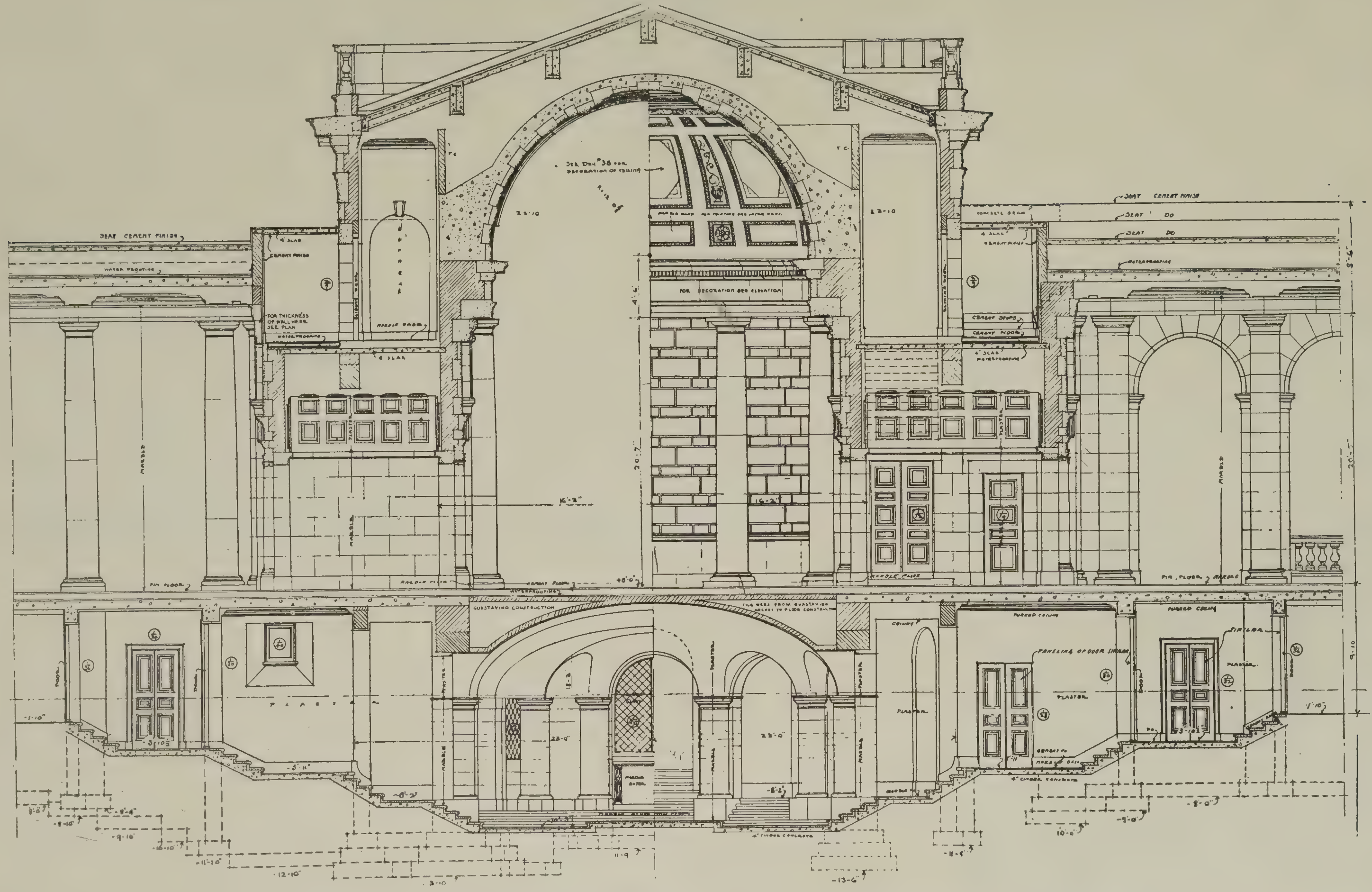
It is worthy of note that this was the first ceremonial gathering of architects ever held at Olympia under the united auspices of these three bodies, and the innovation is one on which all concerned may be heartily congratulated.

Mr. John W. Simpson, P.R.I.B.A., Sir Chas. Ruthen (F.), P.S.A., and Mr. G. Gilbert Scott (F.), P.A.A., received the guests, many of whom were obviously gratified at the opportunity presented by the occasion of greeting old friends under very pleasant circumstances. The unmistakable atmosphere of relief which resulted from the announcement of the previous day that the threatened strike would not materialise no doubt had something to do with the cheerful character of the assembly.

Instrumental music and a generous buffet contributed no less definitely to the enjoyment of a thoroughly representative gathering. Among those present were Sir Henry Tanner (F.), C.B., I.S.O., Sir Banister Fletcher and Lady Fletcher, Mr. H. Greville Montgomery, Major Harry Barnes (F.), M.P., and Mrs. Barnes, Lady Ruthen and Miss Ruthen, Mr. C. McArthur Butler (secretary Society of Architects), Mr. F. Chatterton (F.) (Editor "Specification," Technical Journals) and Mrs. Chatterton, Mr. W. R. Davidge (A.), Mr. G. Topham Forrest (F.) and Mrs. Forrest, Mr. Geo. Hubbard (F.), Mr. Ian MacAlister (secretary R.I.B.A.), Mr. G. Northover (Editor "R.I.B.A. Journal"), Mr. W. T. Plume (Hon. Associate) (Editor the "Builder"), Mr. W. E. Riley (F.) and Mrs. Riley, Mr. E. T. Sadgrove (F.), Mr. F. Shingleton (president Institute of Builders), Mr. Lewis Solomon (F.), Mr. G. Harrison Townsend (F.), Mr. T. C. Yates (A.), and Mr. F. R. Yerbury (secretary Architectural Association).

Modern American Architecture. 20.—Memorial Amphitheatre, Arlington, Virginia : Section through Stage

Carrère and Hastings, Architects



The stage of the memorial amphitheatre at Arlington, Virginia, is semi-circular in form, and is covered with a half-dome, richly carved. Beneath the stage is a mortuary chapel with a domed ceiling and raised ambulatory. This chapel is arranged to seat 150 persons, and will be used occasionally for funerals or commemorative services.

Costing for House Construction

The Ministry of Health have just issued an important memorandum setting forth the general principles of the system of costing which it is expected will be used where housing schemes are being carried out under contracts based on actual cost or by direct labour. Strict adherence to every detail and the use of the suggested forms of account will not, it is stated, necessarily be insisted on, provided that satisfactory alternatives are adopted which secure the like result. Modifications may be necessary where houses are being built by special methods of construction, and the proposed systems should in such cases be referred to the Ministry of Health for approval.

The memorandum has been written as though the work were being carried out under a contract, but the same principles will apply, with very slight modifications, in the case of a scheme carried out by direct labour.

The memorandum is not intended as a complete statement of all the accounts that will require to be kept. It deals more particularly with the costing section of such accounts, i.e., the grouping of expenditure under particular headings and its allocation to definite jobs. The references to the financial accounts are mainly such as are necessary to secure proper correlation with the cost accounts, and to emphasise special points conducive to economy and security and the proper organisation of the work.

COMMITTEE ROOM IN THE NEW LONDON COUNTY HALL.

The objects of the costing system are:

(*a*) To keep a record, under certain prescribed headings, of the actual cost of the work.

(*b*) Where the works comprised in the contract are divided into sections, to ascertain the exact cost of each section.

(*c*) To determine, as soon as possible after the completion of each block, the cost per house under the following headings, viz., (1) labour, (2) materials, (3) overhead charges.

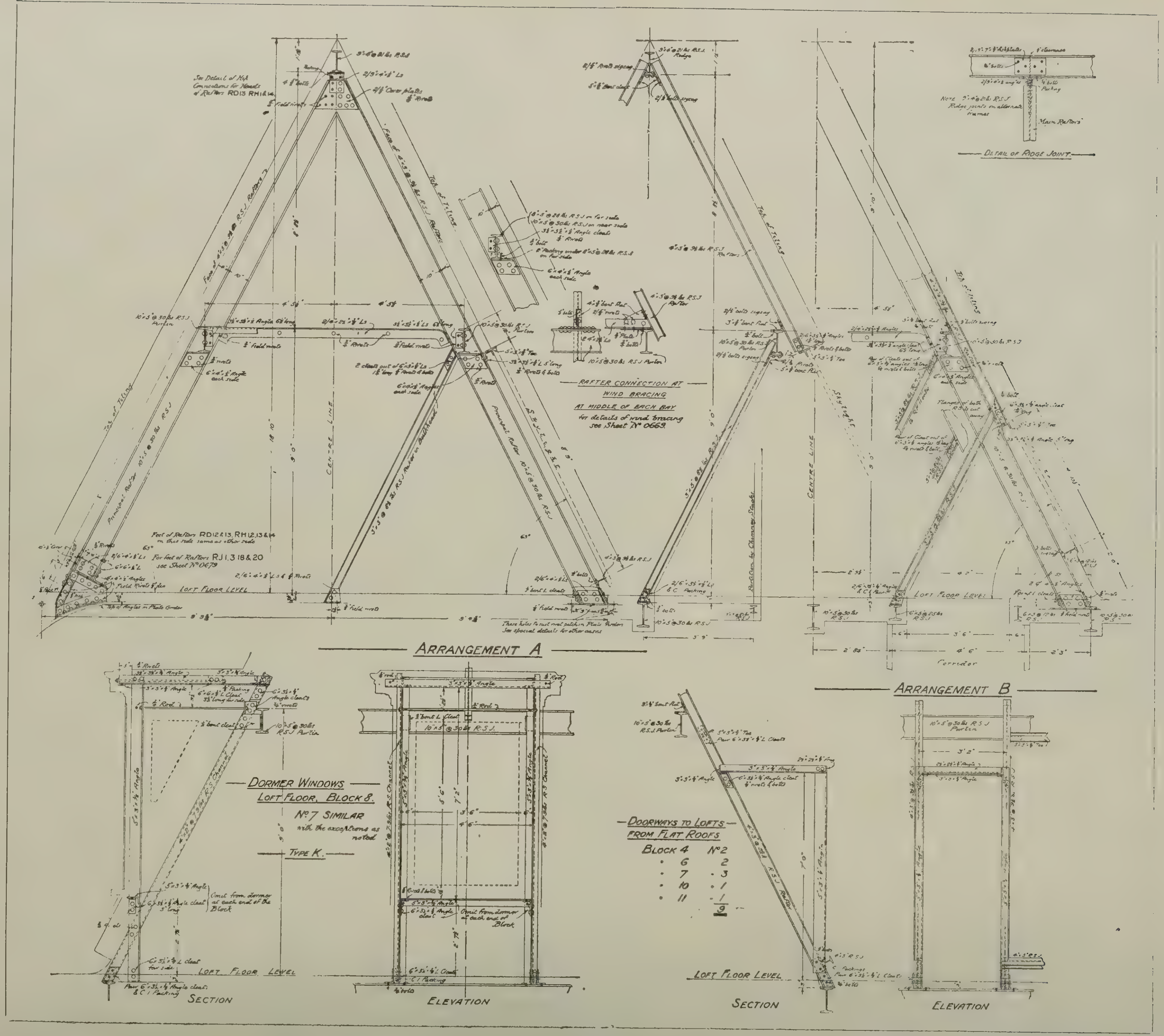
(*d*) To derive, during the progress of the works and through the accounts, information that may aid in securing further economies.

The memorandum may be obtained, price 9d. net, through any bookseller or directly from H.M. Stationery Office at the following addresses: Imperial House, Kingsway, London, W.C.2; 28 Abingdon Street, London, S.W.1; 37 Peter Street, Manchester; 1 St. Andrew's Crescent, Cardiff; 23 Forth Street, Edinburgh; or from E. Ponsonby, Ltd., 116 Grafton Street, Dublin.

CORRIDOR ON PRINCIPAL FLOOR OF THE NEW LONDON COUNTY HALL.

The New County Hall

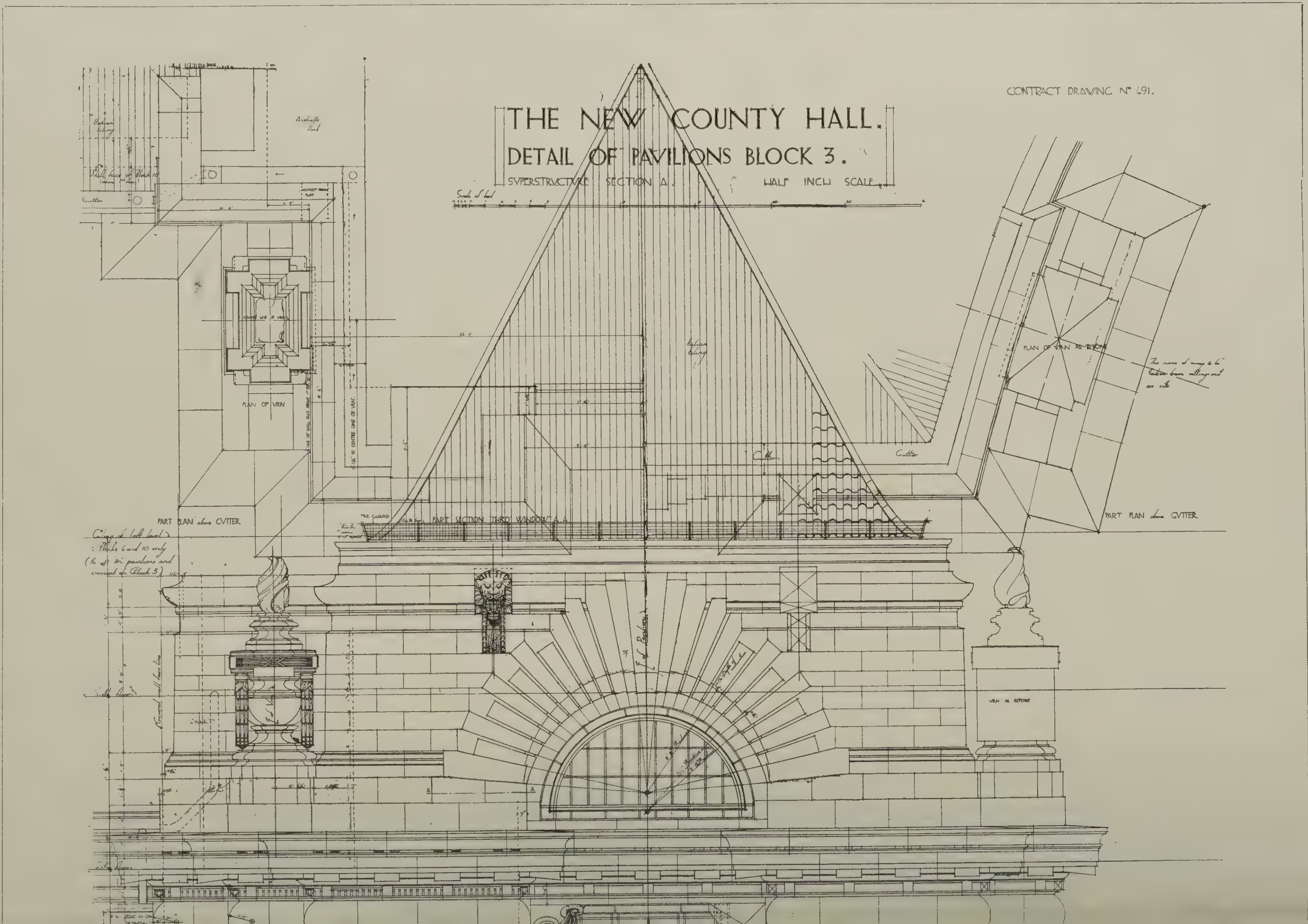
In our issue for April 13 we published a general article on the new London County Hall, while last week particular reference was made to the design of the steelwork of the building. In this issue we reproduce a number of views of the interior, some constructional details of the steelwork of the steep-pitched roof, and, on the double-page plate, a detail of one of the pavilions on the river front. For further particulars of the work readers are requested to refer back to our two preceding issues. The works manager, acting at the site for the main contractors, Messrs. Holland & Hannen and Cubitts, Ltd., is Mr. I. Stone, assisted by Mr. J. Beeson and Mr. S. P. Poole. The sub-contractors for the structural steelwork are Messrs. E. C. and J. Keay, Ltd., of Birmingham, and J. Westwood and Co., Ltd., of Millwall, E. Mr. Ralph Knott's consultant engineers for the structural steelwork are Messrs. Whitaker, Hall, and Owen, of 1 Gresham Buildings, E.C.

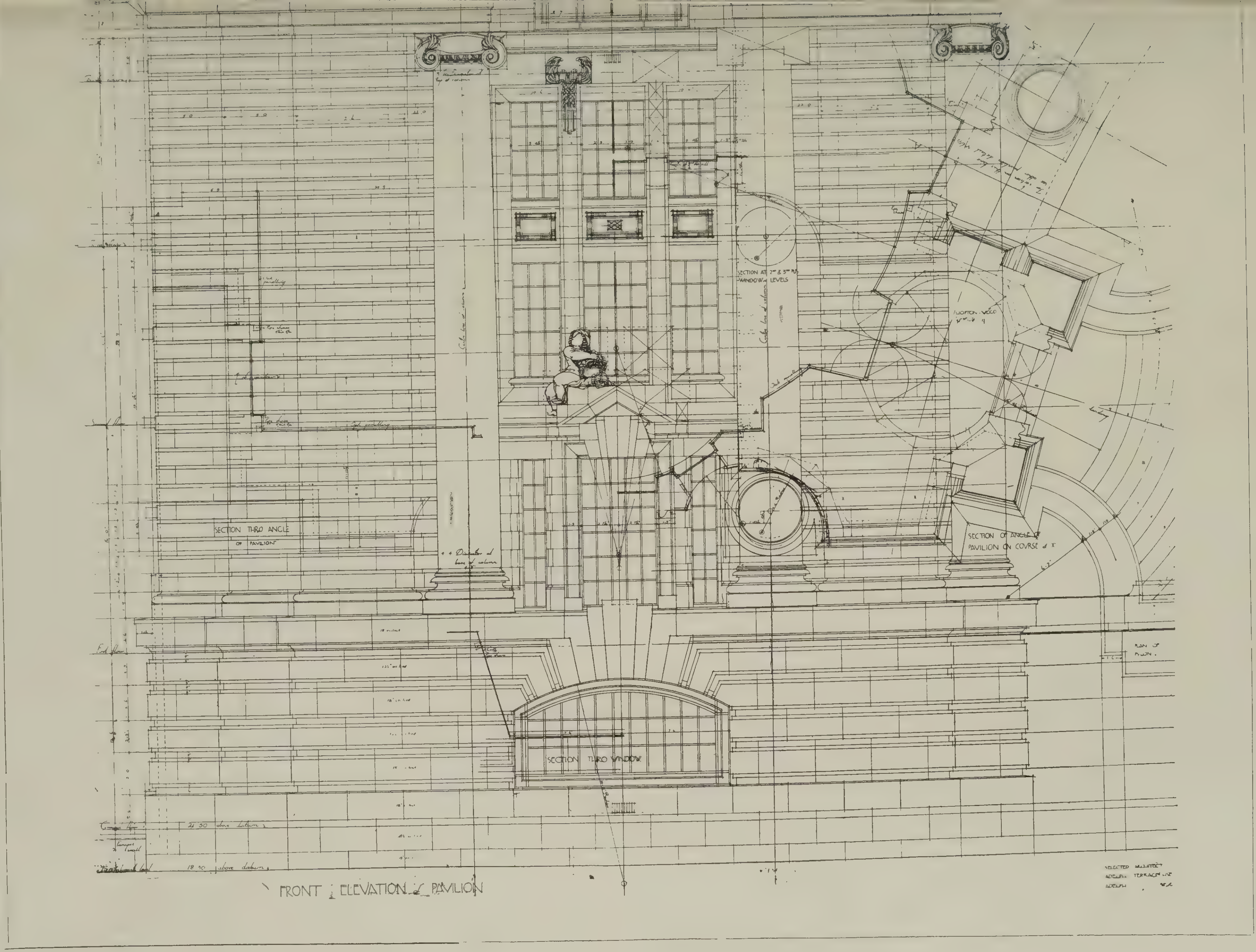


DETAILS OF STEELWORK IN THE ROOF OF THE NEW LONDON COUNTY HALL. WHITAKER, HALL, AND OWEN, CONSULTANT ENGINEERS.

Architects' Working Drawings. 35.—The New London County Hall: Detail of Pavilion on River Front

Ralph Knott, Architect, with W. E. Riley, F.R.I.B.A., M.Inst.C.E., R.B.A., Official Architect to the L.C.C.




FRONT ELEVATION of PAVILION
SECTION THRO ANGLE OF PAVILION
SECTION AT 2nd & 5th FLS WINDOW LEVELS
SECTION OF ANGLE OF PAVILION ON COURSE of X
SECTION THRO WINDOW
PLAN OF PAVILION
18.30 above datum
21.50 above datum

This drawing shows a detail of the pavilion on the left flank of the crescent facing towards the river. There is a corresponding feature on the opposite side of the curve, the connecting chord between the two enclosing the members' terrace. This pavilion feature, in its principal elements, is repeated on the Belvedere Road elevation, of which a view was given on page 447 of our issue for April 13. Characteristic details of the roof steelwork are reproduced on page 532 this week.

Reading Society of Architects

Forty-six architects attended the quarterly meeting of the Reading Society of Architects. Among those present were the president, Mr. C. Steward Smith, F.R.I.B.A., in the chair, and Messrs. A. Cooper, A.R.I.B.A. (Slough), A. S. Cox, M.S.A., T. T. Cumming, A.R.I.B.A.; F. H. Floyd, F.R.I.B.A. (Newbury); W. J. Freeman, A.R.I.B.A.; G. T. Gardner (Oxford), J. H. Goodman, J. R. Greenaway, F.S.I.; N. W. Harrison, F.R.I.B.A. (Oxford); W. Roland Howell, F.R.I.B.A.; P. A. Hopkins, M.S.A. (Gerrards Cross); Harry Hutt, A.R.I.B.A.; C. S. Kimpton, A.R.I.B.A. (Sunningdale); H. M. Lewis (Wokingham); E. P. Morgan, W. Galt Millar, F.S.I., W. R. Morris, J. S. Paton, M.S.A.; H. Whiteman Rising, F.R.I.B.A.; Thos. Rayson, A.R.I.B.A. (Oxford); R. A. Rix (Burnham), Basil Sutton, A.R.I.B.A. (Lambourn); H. W. Smith, M.S.A. (Oxford); G. Berkeley Wills, A.R.I.B.A. (Marlow); F. G. Sainsbury, M.S.A.; G. H. Williams, A.R.I.B.A. (Windsor); F. Woods (Maidenhead); H. E. Watkinson, F.S.I.; and C. B. Willcocks, F.R.I.B.A. (hon. sec.).

After several new members had been elected, Mr. Ian Macalister, secretary of the R.I.B.A., gave a very interesting and comprehensive address on the proposed Berks, Bucks, and Oxon Architectural Association, in which he pointed out the need for such an Association and the value it would be to the profession.

After considerable discussion, in which the educational and other advantages of the Association were considered, it was unanimously resolved to form such an Association, and a committee was appointed to arrange the necessary details, consisting of Messrs. C. Steward Smith, W. R. Howell, H. W. Rising, C. B. Willcocks, Thos. Rayson, G. T. Gardner, N. W. Harrison, H. W. Smith, Basil Sutton, P. A. Hopkins, G. H. Williams, F. H. Floyd, Berkeley Wills, A. Cooper, R. A. Rix, C. S. Kimpton, with Mr. H. Hutt as hon. sec.

In conjunction with the three counties Association, it is proposed to form several affiliated local architectural societies similar to those already formed at Reading and Oxford, so that all architects in the three counties may be in close touch with the central body.

South Wales Institute of Architects

At a meeting of the South Wales Institute of Architects held at the Institute Rooms, No. 6 High Street, Cardiff, the following officers were elected for the ensuing year:

President.—H. C. Portsmouth, F.S.Arc. (Swansea).

Vice-President.—Percy E. Thomas, O.B.E., A.R.I.B.A. (Cardiff).

Hon. Treasurer.—H. Teather, F.R.I.B.A. (Cardiff).

Hon. Auditor.—J. Cook Rees, O.B.E., F.S.Arc. (Neath).

Hon. Librarian.—C. H. Kempthorne, Lic. R.I.B.A. (Cardiff).

Members.—Sidney Williams, M.S.A.; Cecil Wilson, F.R.I.B.A.; T. Alwyn Lloyd, F.R.I.B.A.; E. C. M. Willmott, A.R.I.B.A., Central Branch Representatives.

Glendinning Moxham, F.R.I.B.A.; Thomas Gibb, M.S.A.; J. Herbert Jones, F.S.Arc., Western Branch Representatives.

C. F. Ward, F.R.I.B.A.; J. H. Vaughan, A.R.I.B.A.; C. E. Tebbs, A.R.I.B.A., Eastern Branch Representatives.

E. W. G. Richards, M.S.A.; W. D. Morgan, M.S.A.; J. Llewellyn Smith, F.R.I.B.A., Northern Branch Representatives.

Associates Representatives.—J. Colin Jones (Central Branch), G. L. Crocker (Western Branch), H. Rowe (Eastern Branch), A. Almond (Northern Branch).

Mr. C. H. Kempthorne resigned the position of hon. secretary which he has held for the last five years, and Mr. Ivor P. Jones, A.R.I.B.A., was unanimously elected as his successor.

Mr. H. C. Portsmouth, F.S.Arc., the new President, is the senior member of the well-known firm of Messrs. H. C. Portsmouth and Son, architects, Swansea. In his address to the members he mentioned the fact that in the early days of his career he came to Cardiff as an assistant to the firm of Messrs. Seward and Thomas, and was appointed by them to manage their branch office in Swansea. Mr. Portsmouth has taken a keen interest in the affairs of the South Wales Institute of Architects, and his appointment is a very popular one to all architects in South Wales.

GROUND FLOOR CORRIDOR IN THE NEW LONDON COUNTY HALL.

Devon and Exeter Architectural Society

The annual meeting of the Devon and Exeter Architectural Society, which embraces the counties of Devon and Cornwall and is in alliance with the R.I.B.A., has been held at Exeter.

The chair was taken by the president, Mr. Anstis G. Bewes, A.R.I.B.A. (Plymouth), and amongst those present were Messrs. J. Crocker, F.R.I.B.A. (Exeter), and A. S. Parker, F.R.I.B.A. (Plymouth) (vice-presidents); P. Morris, F.R.I.B.A.; O. Ralling, M.S.A.; J. Bennett, Licentiate R.I.B.A.; B. H. Palmer, Licentiate R.I.B.A., L. F. Tonar, Licentiate R.I.B.A. (Exeter); J. L. Fouracre, A.R.I.B.A.; C. Cheverton, M.S.A.; E. Coath Adams, M.S.A; B. P. Shires, F.R.I.B.A., Victor Prigg (Plymouth); E. Ellis (Exmouth); Allan J. Pinn, A.R.I.B.A. (hon. secretary); and A. R. Holman, A.R.I.B.A. (assistant hon. secretary) (Exeter).

Apologies for absence were received from Messrs. S. Dobell, J. A. Lucas, J. Jerman, W. J. Thommason, and C. R. Corfield.

The annual report was presented, and this, together with the balance-sheet, was received and adopted.

The president referred to the death of three of the members, Mr. John M. Pinn and Mr. Charles Cole, of Exeter, also Mr. E. H. Sedding, of Plymouth. The two former were past presidents of the society, and Mr. J. M. Pinn, who had reached the great age of eighty-three, was the oldest practising architect in Exeter. At this stage of the meeting a vote of sympathy was passed by all present standing in silence.

The president, in the course of his address, said: "In June last you did me the honour of electing me your president for the remaining months of the current year. I accepted the office with considerable diffidence, as my ignorance of the Society's business was profound, but I relied, as I stated at the time, upon the help and guidance of those who have grown grey in the Society's service. I have not been disappointed, and I am duly grateful, though it has occurred to me at times that the solicitude of gentlemen on the Council for my comfort may have induced them to spare me a considerable proportion of the hard labour which I had always understood was the lot of a president. It is impossible indeed to be long upon the Council without being struck with the multiplicity of questions affecting the profession which have to be dealt with and which, in the absence of such a Society as ours, would remain neglected, to the grave prejudice of those engaged in the practice of our art. The importance, therefore, of the Society is not to be gauged merely by any chronicle of striking events which may appear in an annual report. The one salient fact for which we professional men who live in these times ought to be profoundly thankful is that the Society exists, available in case of need for counsel and support and engaged year in and year out in safeguarding the interests of its members, in securing a high standard of professional conduct, and in resisting the encroachments both of the exploiter and the blackleg.

"May I here express what I know is the unanimous feeling of all our members—our sincere regret that Mr. Allan Pinn is unable at present to see his way to resume the office of honorary secretary. Other members can speak with much greater knowledge than myself of the services which he has rendered to our Society for over fourteen years, but, since taking an active interest in its concerns, I could not help being impressed by the universal testimony to the extent and value of his long-continued and self-sacrificing labours. It is no figure of speech to say that we are deeply grateful to him. There is fortunately some consolation for us in the fact that his experience in the affairs of the Society will still be largely available. We are not, as yet, wishing him a peaceful and serene old age in his retirement, and our reluctant good-bye has still about it more than a suspicion of 'au revoir.' Mr. Holman, who, as you know, has for the last year been acting as honorary secretary, fully realises the fact that the experience of Mr. Pinn is an asset which the Society is naturally loath to part with, and he has been at all times only too ready to regard and describe himself as 'pro tem,' though he has partriotically stepped into and remained in the breach made by the withdrawal of Mr. Pinn, and has, as we on the Council fully realise, done a large amount of work, for which, and for his sportsmanlike attitude, he has our hearty appreciation and thanks."

A vote of thanks was proposed by Mr. J. Crocker to the president for his excellent address and able conduct in the chair during the past year. This was seconded by Mr. J. L. Fouracre.

The following officers were elected for the ensuing year: Mr. Anstis G. Bewes, A.R.I.B.A., president; Messrs. J. Crocker, F.R.I.B.A., and A. S. Parker, F.R.I.B.A., vice-presidents; Messrs. B. P. Shires, F.R.I.B.A.; C. R. Corfield, A.R.I.B.A.; J. L. Fouracre, A.R.I.B.A.; J. Bennett, Licentiate R.I.B.A.; F. Jerman and B. H. Palmer, Licentiate R.I.B.A., Council; S. Doball, hon. treasurer; and A. R. Holman, A.R.I.B.A., hon. secretary.

The newly-elected president, on taking the chair, thanked the members for the honour they had conferred upon him in voting him to the chair for the second year of office, and said he would endeavour to carry on the work of the Society as it had been done in the past.

The president proposed a hearty vote of thanks to the hon. secretary, assistant hon. secretary, hon. treasurer, and hon. auditor, which was carried unanimously.

Previous to the meeting being held the members met for luncheon at the Royal Clarence Hotel, Exeter, and at the conclusion the usual toasts were proposed by the president.

Prizes for Measured Drawings

The proprietors of the "Architectural Review" offer a prize of ten guineas for the best measured drawing, or set of drawings, suitable for publication in the "Architectural Review" under the title of "Selected Examples of Architecture."

These should be of some building or monument, or of any interior or exterior detail of architectural interest, ancient or modern.

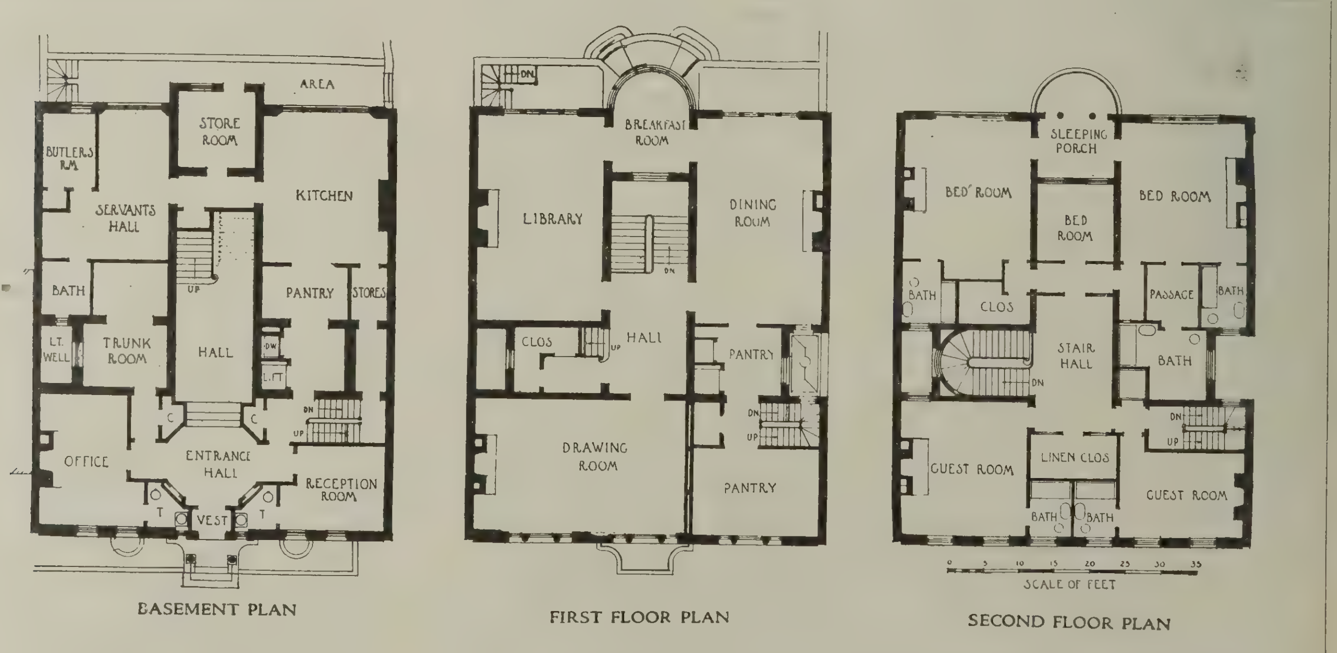
Drawings should be on not more than three sheets of Imperial sized paper, and must reach the office of the "Architectural Review" not later than September 30 this year. This date has been fixed with an eye to allowing students some period of summer vacation for the measuring and plotting of the subject fixed upon.

Competitors may use their own discretion as to the scale used for plotting. If a whole building is taken $\frac{1}{8}$ or 1-16 scale would perhaps be advisable, and for details $\frac{1}{2}$-in. scale. A snapshot or other photograph should be sent with the drawings.

In judging the drawings the Editors will consider the character and interest of the architectural subject chosen, as well as the quality of the draughtsmanship.

The proprietors of the "Architectural Review" reserve the right to use any drawing in this competition, and for any drawing so used they will pay 30s.

The Editors reserve the right to withhold the prize in the event of the drawings submitted being of insufficient merit, and it is a condition of entry into this competition that their decision must be in every instance accepted as final.



BASEMENT PLAN

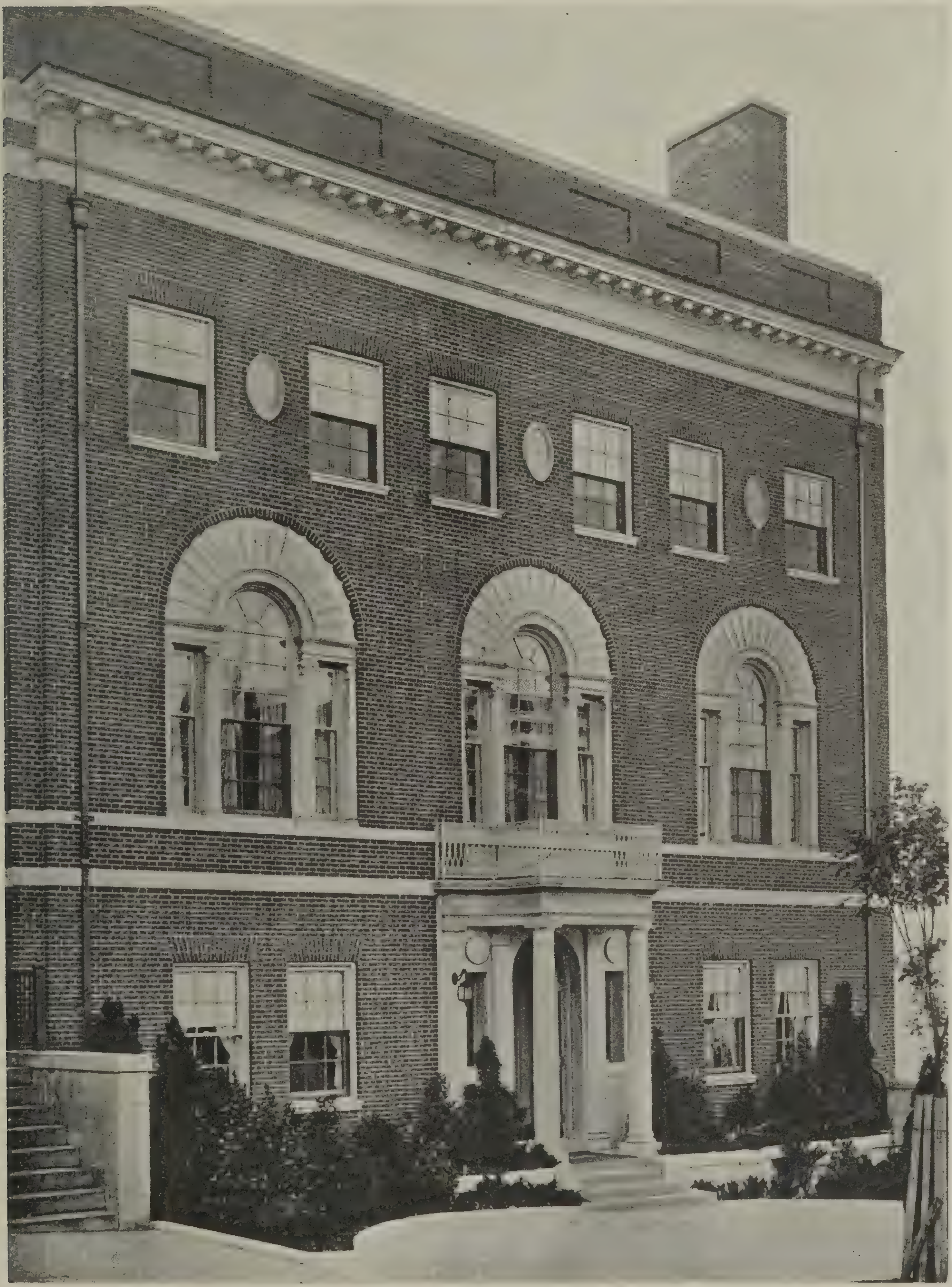
FIRST FLOOR PLAN

SECOND FLOOR PLAN

HOUSE OF EX-PRESIDENT WILSON, WASHINGTON, D.C. WADDY B. WOOD, ARCHITECT.

Modern American Architecture. 21.—House of Ex-President Wilson, Washington, D.C.

Waddy B. Wood, Architect



Conceived in the style of English late eighteenth-century domestic architecture, this house, while adhering more or less faithfully to characteristic elements of the period, shows a good deal of originality in the manner of their employment. The fenestration generally leaves something to be desired, and the triple use of the three-light window is not to be commended. The entrance porch with its iron balcony over is, however, a very effective feature in the design.

Book Notice

Authentic Mouldings.

Messrs. Samuel Elliott, of Reading, are to be congratulated on the production of the portfolio entitled "Authentic Mouldings," which they have just issued as a catalogue.

To describe a work of such excellence as a mere catalogue does but scant justice to the compilers, who have, as a matter of fact, gathered together an unusually valuable series of thirty plates representing wood mouldings from the best periods. They are for the most part drawn from actual measurements, and all but one are full-size.

The examples have been taken from South Kensington and other Museums, from such well-known buildings as Knole House, the Petit Trianon, and the colleges of Oxford; and from standard works of reference of the type of Abraham Swan's "Designs in Architecture" and "Architecture," by the Brothers Adam.

It is pointed out that while the contours are correctly delineated, modifications at the backs of the mouldings have been necessary in a few instances, in order to adapt them to modern constructional requirements.

The series embraces cornices, friezes, dados, skirtings, architraves, and panel mouldings, and the periods represented include the Elizabethan, the Jacobean, the Wren, the Georgian, the Adam, and the Louis Seize. All these mouldings can be obtained from Messrs. Elliot and Sons in lengths from 8 ft. up to 16 ft., in any required kind of wood.

As Mr. H. Austen Hall, F.R.I.B.A., remarks in his foreword, architects will welcome a book of reference that provides a sound basis for design and encourages a closer adherence to some of the models of the masters of the past.

"Authentic Mouldings." Registered Designs, Series No. 12. Reading: Samuel Elliott and Sons (Reading) Ltd. Price 10s. 6d.

Public Lectures on Architecture

Arrangements have been made for a series of six public lectures on architecture to be given at the galleries of the R.I.B.A., 9 Conduit Street, W.1, at 5 p.m. on the following days:

Thursday, April 28. Lecturer: Mr. A. Clutton Brock, "Architecture as Everyone's Concern" (chairman, Mr. John W. Simpson, P.R.I.B.A.).

Thursday, May 5. Lecturer: Mr. F. C. Eden, M.A. "Architecture and Travel" (chairman, Sir Aston Webb, K.C.V.O., C.B., P.R.A.).

Thursday, May 19. Lecturer: Mr. Roger E. Fry, "Architectural Heresies of a Painter" (chairman to be announced later).

Thursday, May 26. Lecturer: Sir Charles Nicholson, Bart., M.A., "Post-War Churches" (chairman to be announced later).

Thursday, June 2. Lecturer: Mr. Henry M. Fletcher, M.A., "Building a House" (chairman, Mr. Ernest Newton, R.A.).

Thursday, June 9. Lecturer: Mr. H. S. Goodhart-Rendel, "Some Fashions in Architecture" (chairman to be announced later).

Admission is free.

Law Report

Contracts for Roads: Adjustment of Prices

Iles v. Merton and Morden U.D.C.

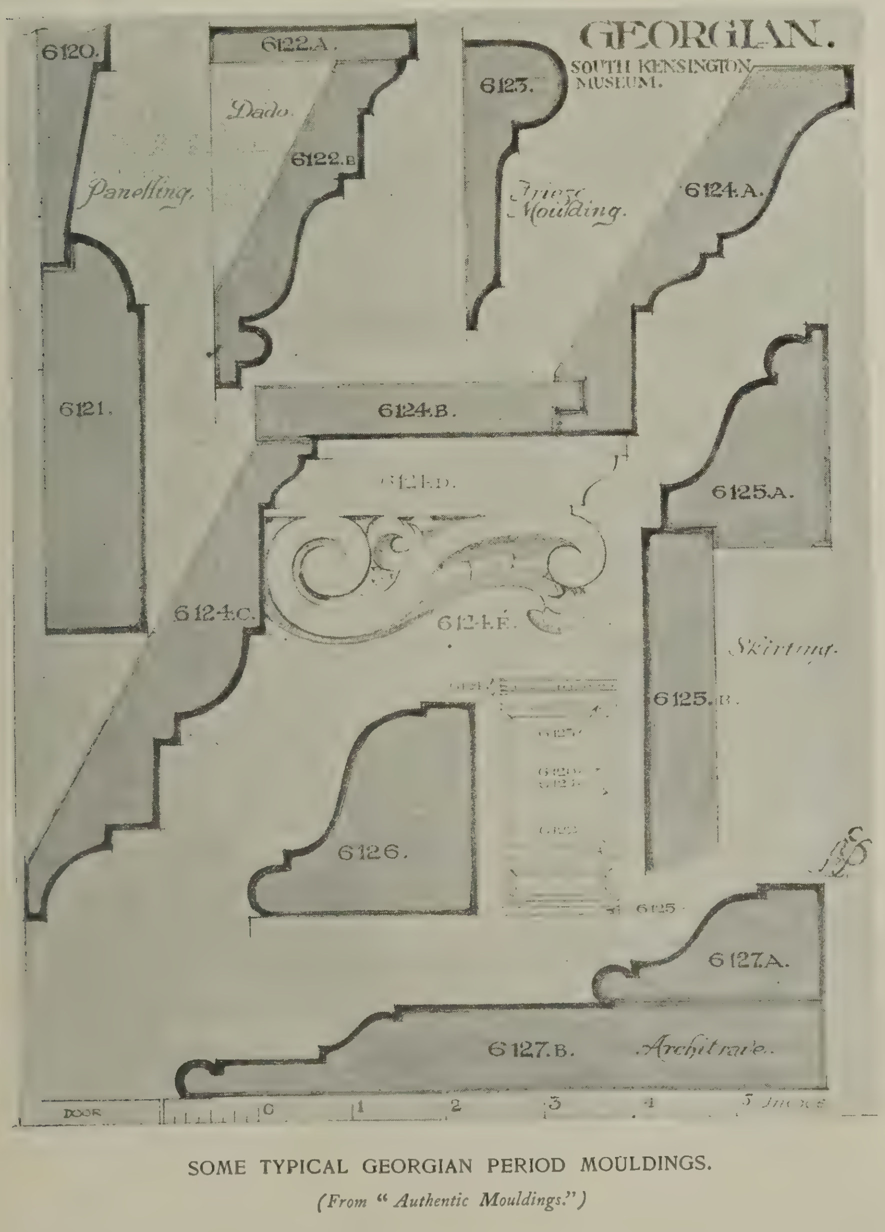
King's Bench Division.
Before Mr. Justice Shearman.

This was a dispute between the Merton and Morden Urban District Council and Mr. Iles, contractor, of North Road, Wimbledon, and came before the Court in the form of a special case stated to the Court with regard to the finding of an arbitrator's award. The dispute concerned a contract for carrying out the construction of roads in connection with the housing estate in the district. The terms of the contract provided for an adjustment of the contract price in accordance with the changes in the cost of materials, and on arbitration it was held that certain terms of the clause might be disregarded. His Lordship, who was asked to determine the construction of the clause, held that the prices fixed in the schedule of prices were the net prices for estimating any increase or decrease of costs. The costs of the arbitration, as well as that case, his Lordship ordered should be borne by the contractor.

The Ellis School of Building

The Ellis School of Building and Engineering, whose pupils may be found in every country and State in the Empire, and in practically every town in the United Kingdom, have sent us a copy of their prospectus of correspondence courses. The character of Mr. Ellis's work can be seen in his well-known books on carpentry, joinery, handrailing, drawing, etc. These are now recognised as the standard works upon their subjects, and their publication has undoubtedly raised the standard of craftsmanship in those trades.

Special courses are provided for architects, builders, and surveyors; training courses for managers, clerks of works, foremen, inspectors, and estimators, etc.; and courses for the examinations held by the British Institute of Certified Carpenters, the Carpenters' Company, the City and Guilds of London, the Plumbers' Company, the Royal Sanitary Institute, the Institute of Sanitary Engineers, and the Civil Service. Full particulars may be obtained from the School, 47 Dalkeith Road, Ilford.



SOME TYPICAL GEORGIAN PERIOD MOULDINGS.

(From "Authentic Mouldings.")

Modern Construction and Equipment

Further Lessons of the Building Exhibition

With the articles which follow, we conclude our special contributors' survey of the progress and development of the building industry, as revealed by the recent Exhibition. The first instalment of these special articles appeared last week.

Heating and Ventilating

By W. W. NOBBS, M.I.Mech.E., Past Pres.I.H.V.E.

ALTHOUH the Exhibition is primarily devoted to the building trade, yet heating, ventilating, and domestic engineering are so closely allied that it has always been a surprise to me that engineers do not take greater advantage of the Exhibition to bring their latest designs and products to the notice of visitors, who for the most part are specially interested in domestic engineering problems, and go to an exhibition of this class for the primary purpose of bringing their technical information up to date

This year domestic engineering exhibits were confined almost solely to improved pieces of apparatus such as boilers, radiators, cooking ranges, and the like, while complete installations or even designs of same were conspicuous by their absence. It will therefore be necessary to draw upon other experience in giving a survey of recent improvements in this direction.

I suggest to the Association of Master Heating and Ventilating Engineers that if they had a stand at next year's Exhibition showing plans and designs of typical installations for central heating, hot-water supplies, ventilating, cooking, laundry, and general domestic engineering plants, with several good technical assistants in attendance to answer questions and discuss propositions, architects would see to it that such a stand was kept busy from morning till night, and to their mutual advantage.

The great majority of domestic engineering exhibits this year were confined to the class of apparatus suitable for housing schemes, such as the combination cooking range, having a convertible open and close fire with a pressure boiler behind for heating and hot-water supplies. Of those which struck me as being eminently practicable were the "Stenhouse" range, made by Carron Co., and the "Lauristine," made by McDowall, Steven and Co. The "Stenhouse" is a self-setting range, having a cheerful open fire with an oven set well back and at a higher level than the fire. The back of the fire is formed with a block boiler with splayed front and back sufficiently powerful to serve a thirty-gallon hot-water storage cylinder. The range has a good hot plate surface, and has an adjustable trivet, which can be used to regulate the air supply and saucepan space. The "Lauristine" range is to all appearances an ordinary full-size register grate with an oven set at the side. In this case also a boiler forms the back of the fire, and the whole piece has a pleasing appearance, with the attractive effect of an undisguised open fire.

Another combination cooker which impressed me more for its utility than for cheerful appearance was the "Eco-Tricity" combination range made by Robert Jenkins and Co., Ltd., of Rotherham. In this piece the heated flue gases from an independent boiler pass around the flues of an ordinary cast-iron cooker. The boiler is fitted with an open front and with a hob plate on top fitted with boiling ring. The boiler serves the purpose of heating water for warming or bath supplies, and the heated products of combustion, which would otherwise be wasted, pass either round the sides and bottom of the oven or across the top of same before discharging into the ordinary flue. The oven and hot plate over same and grill are heated electrically. The normal loading for an electric oven of this size would be four kilowatts, but owing to the advantages taken of the gases from the boiler (which are in themselves sufficient to maintain the oven at 250 to 300 degrees Fahr.), the electrical loading supplied with this oven is but two kilowatts, and this course would in turn be switched down when the oven reaches the requisite cooking temperature.

Messrs. Jones and Attwood showed two of their specialties—the "Domestikatum" boiler and their patent "Bath-heater" system. The former is primarily a hot-water boiler, but is fitted with an open front and movable hob plate whereby boiling, grilling, etc., can be carried out, and the whole converted to an open fire when desired. The "Bath-heater" installation eliminates the inefficient range boiler, and consists essentially of an independent boiler with a vertical storage cylinder bolted direct to the top of the boiler. Primary connections between boiler and cylinder are thus eliminated, and both

STAND OF MESSRS. ASPINALL'S ENAMEL AT THE BUILDING EXHIBITION.

pieces of apparatus should find a ready market for the cottage and housing scheme type of house.

Messrs. Flavel and Co., of Birmingham, showed an interesting combined grate with gas ring and grill, and a boot boiler behind the fire for hot-water services. The fire is fitted with a hinged top, which on lifting diverts the smoke and gases in front of the plate before passing round the oven, this giving the cheerful appearance of an open fire.

Future of Electric Fires.

Of electric fires, the only examples were to be seen at the stands of Carron Co. and McDowall, Steven, and Co. There is no doubt that there is a distinct and growing market for electric fires, and it is somewhat significant that two of the oldest-established manufacturers of coal-fired and gas-heated apparatus are alive to the possibilities in this direction. In its true sense economy includes many factors beyond the cost in fuel consumption, chief amongst which I should name cleanliness, hygiene, labour-saving, and convenience. In a recent paper before the Institution of Heating and Ventilating Engineers, an interesting alignment chart was submitted enabling the cost of heating by different systems to be compared, including central, gas and electric heating, and open fire-grate, when taking into consideration such factors as cost of fuel, efficiency of apparatus, initial cost, maintenance and repairs, interest on capital, cost of wages and attendance. The result seemed to show that electric fires have a distinctly useful place in flats and private houses for intermittent heating, and in boosting up the temperature and giving an appearance of cheerfulness where central heating is installed. A distinct advantage was claimed for electric fires, when considered under the class of "local heaters," on account of their portability.

The electric fires on McDowall, Steven, and Co.'s stand struck me as being more portable, with their oxydised silver metal housings, than the earlier type of enamel earthenware fires, which, in addition to being very heavy, are so liable to become unsightly when chipped. The practical advantage of interchangeable elements, which are wound on segments of one size throughout the whole range of fires, must appeal to the practical electrician and to the householder when considering cost of replacements.

Domestic and Central Heating.

Messrs. Hartley and Sugden showed several of their well-known specialities, including the "Beacon" domestic boiler and their "Duo" indirect hot water supply cylinder, which is eminently suitable for very hard or soft waters. They also showed their "Heatanbake" boiler, which provides another example of the economical use to which one fire can be put. It alternately provides an open fire, heats an oven, warms several radiators, or heats the domestic hot-water supply. With regard to their apparatus for larger installations, there were examples of their well-known "Savile" boiler for constant hot-water supplies, and their "White Rose" cast-iron sectional boiler for central heating. An extremely interesting exhibit on this stand was the oil-fired boiler suitable for water-heating or steam-raising. One would hardly be justified in saying that oil-fired boilers of comparatively small capacity for land purpose are yet past the experimental stage. That is to say, furnaces of this type have not yet reached the perfection to be found on oil-driven ships. Messrs. Hartley and Sugden are one of the pioneers in the application of the oil-fired furnace to land boilers, and the new model that they showed should create much interest among engineers and architects, for I believe there is a great future for oil-fired boilers for central heating on account of the ease of operation, saving in storage space for fuel, and general saving in labour and maintenance costs.

The most recent type of central warming installation that has come to my notice might at first sight take us back to the days of the Romans, who adopted the principle of warming their habitations by means of hot air circulating through hollow walls and floors. The system referred to adopts this principle in its application to floors. This necessitates the co-operation of architect and engineer from the commencement of designs for a projected building to be so warmed, but whereas in the Roman examples of warming the hot air circulated by natural means, in the modern system the warm air is circulated in the hollow floors by mechanical means, such as a centrifugal fan, whereby the air is distributed in such quantities and at such temperatures as are requisite to meet the precise heat requirements of each particular room. I believe there is a big future for this type of installation where floors are maintained at one or two degrees above the required room temperature, and where additional heaters, such as hot-water radiators, are placed under exposed or cold spots, such as windows, to offset the individual heat loss therefrom.

A Useful Wall Tile.

I noticed on the stand of Messrs. Thornley, Mott, and Vines, Ltd., a double cavity wall tile or block, which to my mind is the type of wall which should lend itself admirably to such system of circulating warm air, as the cavity on the external side of the wall would contain still air acting as a heat insulator, while the cavity on the room side of the wall would serve as ducts for circulation of warm air. I recently observed a room with the floor so treated under test. The floor was but 2 deg. above the air temperature of the room, and the whole room was thus warmed by a low temperature radiant effect from the floor, and since it did not depend on convection currents of warm air for the warming effect, scope was allowed for independent ventilation and the practice of individual treatment of air supply.

With regard to hot-water radiators, the latest practice is embodied in the extremely fine example of chaste design which the National Radiator Co. have put on the market in their "Classic" radiator. It is a fine example of craftsmanship, and, in addition to its good appearance, has technical advantages in that the small water space ensures increased emission per square foot of surface, so that for a given floor space a higher duty can be obtained than from the old heavy-looking type of hot-water radiator.

I recently had an opportunity of seeing the test sheets of a new hot-water boiler of the water-tube type. The tests were carried out by an independent authority on a pair of boilers which had done six months' duty in a private installation. The tests were taken on a two-day continuous run, and gave the abnormally high efficiencies ranging from 65 to 85 per cent., the average efficiency over the whole run being 76 per cent. Simplicity seems to be the fundamental point in the design of these boilers. The tubes are so arranged that the circulating water has a uni-directional flow, but it struck me that if one feature more than another gave rise to the high efficiency, it was the equal distribution of fresh air over the whole of the firegrate and the means taken for pre-heating this air by utilising the products of combustion after they had performed their primary duty.

With regard to ventilation, nothing new was shown at the Exhibition. Where fixed seating accommodation is provided, modern practice tends to the provision of an individual supply of properly conditioned air in such quantity and at such temperature as may be requisite to meet the needs of the individual rather than to aim at so many changes per hour. If the original designs for the Council Chamber of the new County Hall for the London County Council are put into effect, it will be a very fine example of this modern theory of warm feet and cool heads for legislators so far as lies in the power of the engineer.

Contractors' Plant and Equipment

It is a plant of sturdy if of somewhat slow growth. Almost necessarily, progress is in details rather than in new types and further developments in species. It was pleasant, however, to see that the exhibits were very numerous, especially in woodworking machinery, about a dozen firms having set up extensive stands for the display of mortising and thicknessing machines, planing and moulding and circular and band sawing machines, and machines for tonguing, grooving, mortising, slotting, and what not.

Ladders, simple or extension, were a very pleasant sight. They "composed" so effectively all round the several stands to which they were attached and, made of good tough larch, they conveyed an assurance of safety in their cleanness of cut and their shapely proportions. But it is rather sad to reflect that their virgin freshness will not last long. When they begin their working life they will be smeared over with more or less ugly paint to protect them from the weather, and will suffer untold degradation at the hands (but more especially at the feet) of untidy men. There is really no excuse for one-half of the untidiness of which working builders are guilty.

Wheel-barrows are always quite naturally associated with ladders. Every year they seem to get less and less clumsy. Compare the slim and graceful wheel-barrow of to-day, in which there is not a single ounce of wood too much, with the superfluously heavy contrivances of the days of our grandsires, when the barrow itself weighed as much as its burden.

Messrs. S. Thornely, Mott, and Vines, Ltd., say sooth when they observe, in one of their leaflets, that "the present era of high prices calls for labour-saving devices both for loading and unloading materials"; and they claim, with equal truth, we are fain to admit, that the Narion steam shovels and Watson bottom-dumping wagons, for which they are sole British agents, make, in combination, for economy and speed of operation. The firm's rhyme-endings—"prices," "devices," "combination," "operation," we believe to have been unpremeditated. The Watson wagon is an extremely neat contrivance—all capacity and no dead weight, and it completely outclasses the old-fashioned wooden wagon. The Marion revolving steam shovels are made in three standard sizes and looked capable of quick and excellent work.

Hoists, cranes, and similar gear was plentiful at this show, an American invasion having provided specimens that, in the American language, may be described as "good and plenty," and calculated to stimulate home improvements. America, however, has nothing to teach our best firms, such, for instance, as the Ransome Machinery Co., who had on view some most excellent machinery of various kinds for builders, contractors, and municipal engineers, general building plant being with them a very special line.

Scaffolding appliances were shown by eight firms, some of whom may be described as "general practitioners," while some few others may be described as specialists in some particular line, such, for example, as the Gripwell Staging Co., who showed at Stand 214, Row K, their patent steel staging brackets for fixing to ladders, poles, or tubular supports, and are doubtless a great convenience for repair work. Scaffixer scaffold ties, patent tubular scaffolding, and tubular crane stagings were daily shown in action; as were many other exhibits in this very interesting department of contractors' plant and equipment.

To sum up, builders and contractors doubtless felt impelled to give this department their most urgent attention. Hitherto they have been, as a class, slow to adopt improved methods, appliances, and machinery. Now that labour has become so fearsomely costly it is an imperative condition of economy to employ labour-saving equipment. The exhibition afforded them an excellent opportunity of examining almost every object that comes under that head and doubtless they took advantage of it.

Newer Materials

By H. MILNES EMERSON, A.R.I.B.A.

THE Exhibition, besides illustrating the improvements that are continually being made by manufacturers and others to the older materials, clearly showed the ever-increasing introduction of newer methods and materials, the use of which have enabled the architect and builder to overcome to a great extent the serious problems that confronted them last year owing to the shortage of labour and the dearth of materials.

Considerable skill and ingenuity have been displayed in designing and manufacturing the various articles used in the construction of a building. This has resulted in the production of many substitutes that have materially reduced the cost of building, and at the same time accelerated the construction and completion of the work.

The use of concrete in various forms finds increasing favour every year, and it is now being successfully employed both in the solid and hollow forms in the various housing schemes. Its use has been accelerated owing to the simplicity of construction, employment of unskilled labour, durability, and cheapness where the aggregate is easily obtainable. The introduction of concrete for the construction of houses has led to the production of various methods of shuttering for erecting the walls *in situ* and machines for the manufacture of concrete blocks.

The use of hollow walls enables the builder to employ two classes of concrete—a hard impervious material for the external wall, and a more absorbent material for the internal wall. The hollow wall system at the same time allows the use of thin walls without variations of temperature.

Many manufacturers and inventors have turned their attention to the production of machines and appliances for quickly and economically erecting concrete houses, etc., and architects found it worth while to inspect the various systems shown, which included those of Messrs. Henry Wilde, B. W. Clegg and Sons, Vickers, Ltd., The Australia, Martin Harvey Engineering Co., Modern Building Co., Composite Concrete Construction Co., the Tourba Construction Co., Stothert and Pitt, Ltd., the Climbing Steel Shuttering Co., Winget, J. A. King and Co., and R. H. Kirk and Co.

Roof coverings were exhibited in various materials. The older type of large slates of uniform colour and thickness now gives place to the small, uneven, thicker ones of varied colours, which are pleasing to the eye and durable. Tiles were also shown in numerous patterns, and the Roman type is being revived, probably on account of the difficulty at present experienced in obtaining the ordinary plain tiles. The Roman tile is very effective, and has the advantage of cheapness and a saving in roof timbers. Lighter roof coverings were shown in asbestos of various shapes and patterns, and in bitumen roofing felts.

For roof glazing Messrs. King and Co. have introduced a ferro-concrete glazing bar which possesses many advantages. An ingenious method of glazing without putty to deal bars was shown by the Metacon Glazing Bar Co. The Bitumen Products, Ltd., have solved the problem of dealing effectively with leaky and damaged slate roofs by treating them with their Rufoid, obviating the necessity of stripping and relaying the roof covering.

What the floor covering shall be is a problem that often confronts the architect. The Granwood Flooring Co. have introduced a composition floor block which is not affected by fire or water, can be obtained in various colours, and has a fine appearance when polished with ordinary floor polish. For factories and similar buildings where old wood floors require renewing without removing the existing floor, a floor covering which was shown by the Oil Trust, Ltd., would no doubt give a very satisfactory result. The material is very durable, and its tenaciousness ensures perfect adhesion with the existing wood floor.

We have had stair treads in wood, iron, brass, and other materials, but stair treads made from cotton causes one furiously to think. Ferodo, Ltd., who were exhibiting stair treads made from this material, claim that one piece of their fabric will last as long as six times its thickness in iron. The same firm have also introduced a new floor covering, a combination of rubber and perforated lead, which should have a successful future.

Turning to internal wall coverings, many substitutes were shown which expeditiously and satisfactorily take the place of the old lath-and-plaster finish, and these substitutes will be the more welcomed to-day by those architects who find the completion of their housing schemes held up by the shortage of plasterers. These wall boards are made of various materials, including asbestos, cement, fibre, wood pulp, and stamped metal. The British Everite and Abestite Co. showed the various uses to which asbestos sheeting can be put, and incidentally also exhibited examples of gutters, downpipes, and other articles manufactured from the same material. Fiberlic, another wall covering, which was exhibited by Macandrews and Forbes, is made from a fibrous root found in Mesopotamia. The Thames Paper Mills, makers of Calno board, have introduced a new material known as SX board, which is at the present time being used by the Ministry of Health on some of their housing schemes.

The economical finishing to interior surface is to be found in the Heolin obliterating paint. One coat will cover with a flat finish and two coats with a gloss finish to all surfaces without a pruning coat, and is stated to cover ninety to one hundred square yards to the gallon. The firm showed a sample covering on asbestos sheeting, which gave a painted canvas effect to the walls.

The old method of hanging sashes with flax cords is replaced by the use of chains, and an entirely new and cheap type of chain and pulley, suitable for housing schemes, was shown by Rhodes Chain, Ltd. Their more expensive types of chains with ball-bearing pulleys are a revelation in the easy running of heavy sashes.

A new cold water glue called Certus is manufactured in powder form by Central Chemicals, Ltd. It simply required the addition of cold water to the powder, and the glue is then ready for use. It has great strength and tenacity, and is claimed by the makers to be waterproof. The Allan revolving hatch is a new and novel form of serving hatch, and one of the advantages is that direct communication or vision between dining-room and servery is avoided, although the operation of the hatch is not impaired in any way.

In country districts, where the absence of gas and electricity necessitates the use of other means for obtaining artificial light, the new petrol vapour lamps introduced by the Petrolite Lamp Co. should prove an efficient substitute. The lamps are obtainable in various designs, are fitted with a gas mantel, and give a brilliant light for twelve hours with one filling. Petrol is absorbed in a porous block in the lamp. By this arrangement no loose petrol remains, and should the lamp be knocked over it is instantly extinguished.

In the heating and cooking section improvements are continually being made. The Davis Gas Stove Co. have some very excellent heating stoves, and with their Nautilus flue blocks a very efficient flue can be constructed in walls 4½ in. thick. Quite a new method of heating houses in this country is provided by the Monitor Heating Co.'s caloric system. A small cellar, brick flue to carry off the smoke from the furnace, and a grating in the floor is all the structural work required by the makers, who guarantee with their system to maintain an even temperature throughout the house without the use of pipes, ducts, or other apparatus.

As concrete has now entered so largely in the construction of various parts of the house, it is perhaps not surprising to find it being used for drainage and fencing. The Stanton reinforced concrete pipe is made in long lengths, and the concrete pipes and road manholes made by Messrs. Sharp, Jones, and Co. showed that this material is eminently suitable for this work. The C. R. system of reinforced-concrete posts and rails opens up a new fencing material which is not only very strong but practically indestructible.

A combination of old materials and new materials, old methods of construction and new methods of construction, compiled by the labours of the architect, builder, and craftsman, could be seen in the refined and artistic exhibit by Messrs. Robert Johnson, of Leicester, who showed three rooms completely decorated and furnished in various styles.

Correspondence

Taste in Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The writer of a recent article in "The Times" on rural beauty finds a difficulty in seeing what steps might be taken to prevent the erection of tasteless villas, etc., in view of the opinion that the architecture of villas and cottages is a matter of taste, and the fact that local authorities have no control over ugly designs, but only over other questions affecting building, which can be dealt with through the by-laws.

I suggest the remedy is for building by-laws to be amended and simplified to cover (a) sanitary and hygienic requirements, (b) the prevention of and escape from fire, (c) to ensure strength and stability, and (d) to limit the approval of building plans to those prepared by qualified architects.

The public are guarded to some extent from faulty construction and sanitation by the existing regulations, and they are entitled to be protected also from the equally evil effects of defective planning and design.

As usual, we must look abroad for a precedent, and I draw attention to a by-law recently passed by the Johannesburg Town Council, which provides that all plans approved for buildings exceeding two hundred pounds in cost must be signed by a qualified architect. I believe a similar by-law has been in force for some years in Pretoria with beneficial results, and here it may be noted that the statutory registration of architects is in force in the Transvaal, and therefore there is not the same difficulty there which exists here in regard to the legal definition of a qualified architect.

I understand that the Scapa Society is promoting a Bill to give local authorities powers to veto the display of advertisements calculated to disfigure the landscape, and I think architects will agree that these powers might be extended to buildings with equal propriety; and, if so, why not go a step farther and ensure that in the public interest buildings should be erected from the plans and designs of qualified architects, who would incidentally have some personal interest in seeing that their creations were not subsequently defaced?

C. MCARTHUR BUTLER,
Secretary of the Society of Architects.

Building Trades Exhibition "Improved Planning"

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The ably written article by Professor A. E. Richardson, F.R.I.B.A., published in your issue of April 13, on "A Plea for Improved Planning" contains many points well worth consideration, but the writer in demanding an architectural "plan" overlooks the fact that these exhibitions have been in existence for the past twenty-five years. Any attempt to adopt a "plan" would, I think, be futile. Granted that Mr. Imre Kiralfy made the most of his "collection of stalls," he had the advantage of starting *de novo*, and had not to deal with hundreds of exhibitors who have staked out claims, and who would not brook interference in their particular method of displaying their goods. Uniformity is impossible in an exhibition of this nature, and it is doubtful if it is altogether desirable. It would be almost as difficult to enforce a universal scheme of housebuilding.

H. GREVILLE MONTGOMERY.
Olympia, April 19, 1921.

Latest List of New Inventions

Latest Patent Applications.

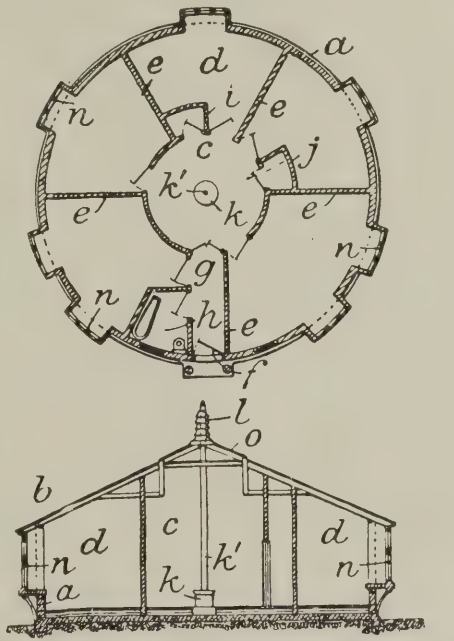
8917.—Bell, F. J. T.—Means for suspending cradles, etc., for repairing buildings. March 23.
9120.—Boot, C.—Buildings. March 24.
8782.—Ingham, A. — Concrete-block building system. March 22.
9022.—Spring, F.—Walls constructed of hollow bricks. March 23.
9188.—Thomson, R.—Building blocks and slabs. March 24.
9660.—Liney, P. L.—Corner fittings for buildings. April 1.
9482.—Schneider, W. — Process for manufacturing coating on stone. March 30.
9690.—Thewlis, J.—Machine for making concrete, etc., slabs and blocks. April 1.
9714.—Wright, A. E.—Building bricks. April 1.

Specifications Published.

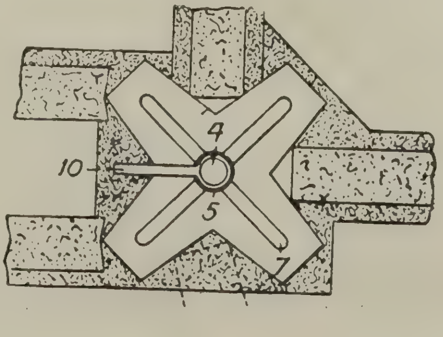
160226.—Ballinger, W. F., and Perot, E. G.—Combined wood and reinforced concrete walls for buildings.
160329.—Green, B.—Timbering for the erection of reinforced concrete and other construction.
160607.—Mosley, R.—Hand-moulds for concrete blocks and bricks.
160647.—Laurie, A. P.—Construction of hollow walls for buildings.
160650.—Sykes, J.—Concrete building blocks.

Abstracts Published.

157541.—Bungalows.—Saunders, S. E., Padmore House, Whippingham, Isle of Wight.—A house which is circular in horizontal section, having cylindrical walls *a* surmounted by a conical roof *b* is planned with a central circular room *c* to be used as a kitchen and with outer rooms *d* having radially disposed walls *e*. The entrance *f* opens into a passage *g* with a bathroom, etc., *h* leading out of it. The compartments *i*, *j* serve as a larder and a coal-cellar respectively. The flue k^1 of a central cooking stove *k* ascends to a louver ventilator *l* which may be connected to the rooms *d*. The windows *n* are secured within corresponding apertures of the wall *a* by means of screws, etc. The kitchen *c* is lighted by a skylight *o*. The walls *a* may be built up of wooden frames having laths, etc., nailed thereto, finished externally in rough-cast and covered internally with "Beaverboard" or plywood or the like.



158025.—Walls.—Cave, G. 13 Brighton Street, Stoke, Coventry.—Concrete junction pieces for slab walls are made of the cross-section shown to allow either single or double walling to be connected between the ribs at any



angle. They may have a longitudinal hole 5, metal reinforcement 4, and grooves 7 for cement. The connection is made by concrete fillings, which may be reinforced by metal bars 10 connected to the central reinforcement 4. Instead of a central hole 5, there may be one in each limb.

The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2. from whom readers of this Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner and Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1s. each.

The Week's News

Dundee Housing Scheme.

For the housing scheme at Dundee the architect's fees aggregate £6,820.

Housing at Hendon.

At a cost of £22,635, Hendon Council have acquired a site at West Hendon for houses, pleasure-ground, and allotments.

Widening of the Strand.

Further widening of the Strand, between Northumberland Avenue and Waterloo Bridge, is proposed by L.C.C.

Rawcliffe Housing Schemes.

The Council has agreed to build five houses at Rawcliffe, and five at Rawcliffe Bridge.

Norwich Architects' Assistants.

Members of the A.S.A.P.U. have spent a pleasant and instructive afternoon in viewing Overstrand Hall, a fine example of Sir Edwin Lutyens's domestic architecture.

Chapel-en-le-Frith Housing Schemes.

Mr. John Hughes, a member of the Whaley Bridge Urban Council, has been appointed clerk of works for Chapel-en-le-Frith District Council's housing schemes.

Mr. J. W. Claxton.

Mr. J. W. Claxton, of Seaham Harbour, who has just been placed on the Commission of the Peace for the County of Durham, is architect and surveyor to the Marquess of Londonderry. He is a member of the Society of Architects and a licentiate of the Royal Institute of British Architects.

World's Championship Tennis Courts.

We learn that the En-tout-Cas Co., Ltd., of Syston, near Leicester, have been entrusted with the construction of the ten hard courts for the new world's championship ground at Wimbledon Park, including the centre hard court, which, we understand, will be used for the world's hard court championship.

Southwark Bridge.

The finishing touches are being applied to Southwark Bridge, which it is probable will be opened some time next month by the King. Although every portion of the old bridge has been demolished, from the superficial coping down to deep foundation stones, the structure has never really been closed from the time it was taken over by the present contractors. That is to say, provision for pedestrian traffic was made just as was the case when the widening of London Bridge took place some years ago.

Professional Announcement.

The professional practice of the late Mr. H. B. Ransom, M.Inst.C.E., 3 Victoria Street, S.W.1, has been transferred to Messrs. Dolby and Williamson, consulting engineers, 8 Princes Street, Westminster, S.W.1, to whom all correspondence should be addressed.

Building Trades' Sliding Scale.

The ballot that is being taken nationally among the building trades operatives respecting the adoption of a sliding scale of wages based on the cost of living shows the painters in favour of acceptance. The scale is a halfpenny per hour reduction for every drop of 6½ points in the cost of living, and there is every reason to believe that nationally the scale will be adopted.

New Rotherham Sanatorium.

Alderman W. Wormald, chairman of the Rotherham Corporation Health Committee, has laid the corner-stone of a new sanatorium to accommodate a hundred patients, which is to be built on the site of Oakwood Hall. The contract for the new sanatorium has been let to Messrs. Henry Boot and Sons, of London, for the sum of £45,959.

Manchester Plans for Coming Year.

The Town Planning Committee propose to begin work on the section of new road (No. 25) between Moseley Road and Mauldeth Road, and the Markets Committee intend to reconstruct part of the Smithfield Market at a cost of £20,000 and to spend £10,000 on the machinery for cold storage. The former figure will include the roofing over of the square in the market.

Spalding War Memorial.

At a meeting of the Spalding War Memorial Committee, modified plans prepared by the architect, Sir Edwin Lutyens, were submitted, and also a tender for carrying out the work for £3,470. This tender was provisionally accepted, and the architect was asked to proceed with the matter as early as possible. The memorial will take the form of a cloister garden, to be erected in the Ayscoughfee Gardens.

The Late Captain Horsfall.

A handsome chancel screen in St. Faith's Church, Crosby Road, Waterloo, has been erected by Mr. H. Douglas Horsfall in memory of his eldest son, Captain Robert Elcum Horsfall, who fell in the Cambrai battle on November 20, 1917. The screen, which is of fumed oak and is Gothic in design, contains four columns, shaped into statuettes of St. Agnes, St. Paul, St. Catherine, and St. Chad. It was designed by Mr. G. Gilbert Scott, A.R.A., F.R.I.B.A., and executed by Mr. Edward O. Griffith, sculptor, of Bevington Hill.

The Salisbury Hotel.

An opportunity of acquiring a site of unusual dimensions in the heart of London will be offered this month, when the Salisbury Hotel, off Fleet Street, is exposed for sale by auction. Standing on an island site in Salisbury Square, the hotel and the adjoining buildings (which are included in the sale) occupy an area of 27,000 square feet. The hotel building is especially constructed for that particular purpose, but it is also suited for a club or an institute. The sale is fixed for to-day (Wednesday), at Winchester House, Old Broad Street, E.C., and the auctioneers are Messrs. Farebrother, Ellis, and Co.

New Factory Near Harrow.

Between one thousand and twelve hundred workmen are at work at Greenford, near Harrow, putting finishing touches to a factory being built for Messrs. J. Lyons and Co., the caterers. Set in the middle of green fields, in the healthiest of surroundings, it covers an area of twenty-six acres. Designed to accommodate between 4,000 and 5,000 workers (if necessary), the most modern ideas in construction have been introduced in the building, which is four storeys high, and canteens, rest rooms, and a first-aid department are provided. The Lyons Club, with its seventy acres of recreation and sports grounds, is close to the new factory.

Brick and Tile Factory for Palestine.

A brick and tile factory "silicate" will shorly be registered in Palestine as a limited company with a capital of £E75,000. The head office and factory will be at Tel-Aviv, Jaffa. The company has been formed to manufacutre building bricks by a patent process from compressed sand and lime and roofing tiles from asbestos and cement. It is also proposed to manufacture asbestos cement sheets suitable for building purposes. Production is expected to commence about the end of July, 1921. It is estimated that a daily output of 40,000 bricks will be made, which quantity will be doubled, should the demand arise, by the adoption of two shifts instead of one.

The Boy Scout Shilling Fund.

With a view to assisting His Royal Highness the Prince of Wales's appeal on behalf of the Boy Scouts, a shilling fund has been opened by the committee of the Hyde Park Dance Club under the patronage of the Boy Scouts Association and His Royal Highness the Prince of Wales's Organising Committee. On May 24 (Empire Day) the fund will be inaugurated by an At Home and Thé Dansant at the Hyde Park Hotel (4 to 6.30). Particulars will appear from time to time, it being the intention to hold attractions daily from the date of inauguration for a week, the whole culminating in a grand ball to be held at the Hyde Park Hotel on the eve of Derby Day, May 31, under the patronage of His Royal Highness the Duke of York, His Royal Highness Prince Henry, Her Royal Highness Princess Royal, H.R.H. the Duke of Connaught, H.R.H. the Princess Louise, Duchess of Argyll, H.R.H. Princess Beatrice, T.R.H. Prince and Princess Arthur of Connaught, H.H. Princess Maud, H.H. Princess Helena Victoria, H.H. Princess Marie Louise, and H.M. King Manuel of Portugal.

The May "Architectural Review."

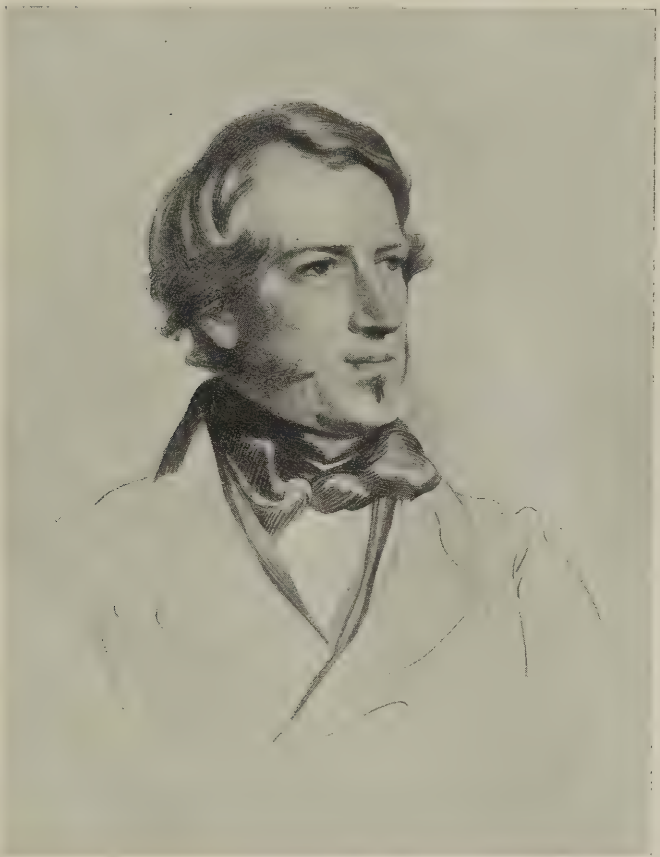
The forthcoming number of the "Architectural Review" will contain a frontispiece in colour from a water-colour drawing by Mr. W. Walcot; an article, illustrated with drawings and photographs, on La Chapelle Expiatoire, Paris; whilst the recent restorations to the Palace of the Popes, Avignon, are ably dealt with by Mr. Frederic Lee.

An acknowledged expert writes upon "The Cause of Decay in Ancient Stained Glass," Mr. Edward Warren, F.R.I.B.A., reviews Mr. E. H. New's recent drawings of Oxford, and the proposed alterations to the charming old Hall at Letchworth are illustrated.

Wednesday, May 4, 1921 Volume LIII. No. 1374

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



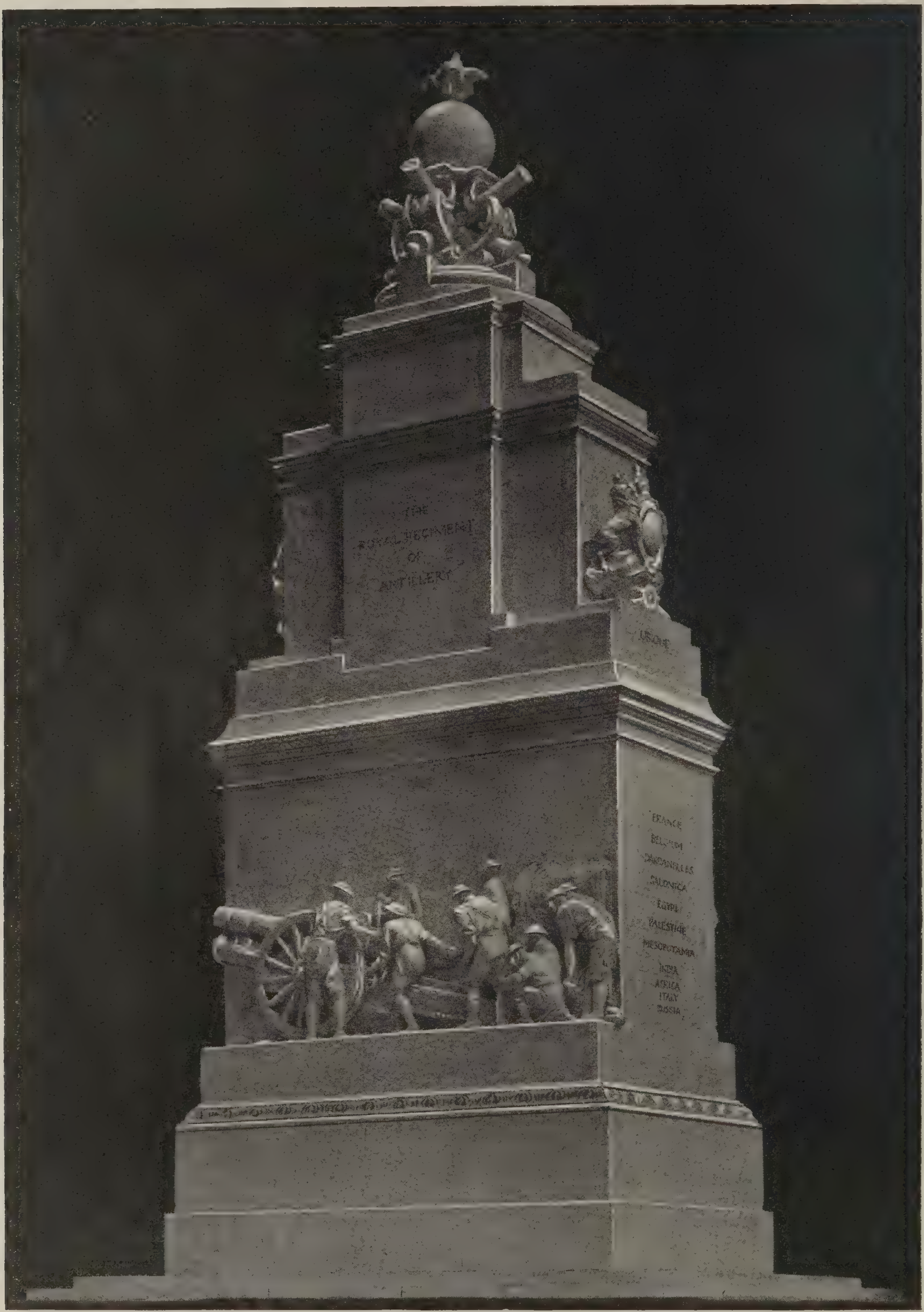
Geo Godwin Jr.

George Godwin (1815-88), the son of an architect, entered his father's office at the age of thirteen, and quickly developed a taste for literature and art. In 1835 he obtained the first medal awarded by the R.I B.A.—for an essay on "Concrete." He took an active part in organising the Art Union of London, and contributed to the principal art and architectural magazines of his day. He became editor of the "Builder" in 1844, and in 1881 received the Royal Gold Medal of the R.I.B.A., of which he had been a vice-president. A successful architect, his executed works are mostly to be found in the Bristol neighbourhood, where he restored the great church of St. Mary Redcliffe. He was awarded a premium in 1847 for his selected design for Colney Hatch Lunatic Asylum. With his brother Henry he carried out several works in London, including St. Jude's Church, Earl's Court, and the Redcliffe Mansions, South Kensington.

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 13.—Design for the Royal Artillery War Memorial, Hyde Park, London

Sir Edwin L. Lutyens, R.A., F.R.I.B.A., Architect. Professor Derwent Wood, R.A., Sculptor



By courteous permission of "The Times."

The above design has been prepared by Sir Edwin L. Lutyens and Professor Derwent Wood in collaboration, and is now under consideration by the Royal Artillery War Commemoration Fund. The Secretary for the fund is Brigadier-General F. T. Ravenhill, Artillery House, Knaresborough Place, Earl's Court.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, May 4, 1921 Volume LIII. No. 1374

The Library and the Architect

IN the University of Illinois there is cherished the Ricker Library of Architecture, which comprises more than 8,000 volumes. An interesting booklet, outlining the contents of the library, has been issued, and we have been favoured with a copy. The author—for he is much more than a compiler—Mr. N. C. Curtis, calls his "bulletin" "a familiar talk to students of architecture in the University of Illinois." It is an informing and entertaining talk; and in its lightness of treatment, combined with soundness of scholarship, it recalls the admirable lecture delivered a little while ago by the librarian of the R.I.B.A. Mr. Dircks's lecture should be widely circulated in pamphlet form. To suggest in this period of dear printing that it should form the introduction to a published catalogue of the R.I.B.A. library would be to presume very rashly that the Institute has a Fortunatus's purse. Nevertheless, the investment would be thoroughly sound—not commercially, perhaps, but as a matter of education; for it would increase a hundredfold the value of the library to the architectural profession and to the interested laity.

The Ricker Library of Architecture is one of the finest in America, and in a published description of the aims, ideals, and resources of the School of Architecture at Illinois, Mr. S. F. Kimball says: "The really invaluable resource of the school is its superb collection of architectural books. The solid ranges of folios, which must serve as a substitute for the surroundings of students in Paris or Rome, are probably surpassed in but a single architectural school of America. The Avery Library of Columbia is thought to be the most complete of all special libraries of architecture, and is undoubtedly the first in America for research in architectural history." This richness of America in architectural libraries will be news to many British architects, to whom it will help to explain the abounding scholarship of their American brethren.

That American architects greatly value their libraries, the publication of the brochure that has been sent us is significant. It has been frequently alleged, and as frequently contradicted, that the Americans are more addicted to "the reading habit" than are we Britons. It is clear, at any rate, that the Americans have greater need to read, especially about architectural history. For instance, they have to be content to read about Wren, but for us, whether we live in London or in the provinces, his works—or such of them as vandalism has spared us—are accessible in three dimensions; and Paris and Rome are nearer to London than they are to New York, although these facts are largely discounted by the American habit of persistent travelling. It must have been an American who invented the felicitous term "globe-trotting."

There is no need to enquire into the relative frequency and efficiency of British and American architectural libraries; but the subject having become topical, it is worth while to take note of the attention that our American friends are giving to architectural libraries and architectural publications. It is doubtful whether we sufficiently value the opportunities that are ours. In our universities in which architecture is taught, libraries are naturally regarded as an indispensable part of the equipment. In every instance at least the nucleus of an architectural library has been formed. But in no case, as far as we are aware, are sufficient funds available to make the architectural library reasonably complete, and to keep it adequately supplied with new books and periodicals. In this respect even the Institute library is not ideal. The Institute was hit too hard by the war to be able to lavish money on its excellent library; but that it has been by no means neglected was made abundantly evident by Mr. Rudolf Dircks in his exceedingly interesting lecture delivered before the Institute last November.

To the architect, little less—perhaps even more—than to the engineer, books are indispensable. So complicated, so multifarious has the work of each become, that of either the saying, "Still the wonder grew, That one small head could compass all he knew," has been long obsolete. A professional man is bound to supplement with a library the knowledge that he has assimilated; because, even if he had acquired it all, he would still require to refurbish it occasionally—nay, very often. Hence the architect's own private library is indispensable; and if it is to retain its virtue of helpfulness, it will be continually growing.

While the architect hardly requires as many reference books as the engineer, who must at every turn consult his tables of mathematical formulæ, and is thus in a very real sense a "consulting engineer," the architect must needs range over a much wider field. He, more than the engineer, certainly—and, indeed, more than most professional men—will find manna even in the wilderness—that is to say, professional stimulus even in a poem or a novel. Many an excellent idea is derived, consciously or subconsciously, from general reading, which "maketh a full man." But the books for which room can be found in an architectural library are naturally much more fruitful of direct or indirect inspiration, and no architect who loves his art and is determined to excel in it would dream of neglecting the literature of his profession, nor the graphic arts allied to it, and the American author whose brochure has prompted these reflections quotes Russell Sturgis as saying quite truly about Piranesi, for instance: "Besides delineations there is an immense amount to be learned about architectural composition from his wonderful etchings." Russell Sturgis, in adding very wisely that "The thing to look for in Piranesi is not so much architecture (there is something to say on that side of him, too) as fine and masterly engraving of original subject. . . . No man has seen all that the engraver's art is capable of until he has seen and studied nearly everything that Piranesi has left." The point is, that there is an essential unity in art, and consequently the more one understands about engraving the more one understands about architecture. Hence merely to consult an architectual library on specific occasion is not enough. To get the fullest value from it one should browse and ruminate. It is thus that breadth and mellowness are got.

Notes and Comments

Four Government Building Departments!

Sir Philip Pilditch said the other day, in the House of Commons, that he "did not think it was ever contemplated that there should be four different Government building departments." Either admission or denial of the truth of Sir Philip's insinuation would have impaled the Government on the horns of an awkward dilemma. If four departments had been contemplated, the Government was guilty of lavish extravagance; if they were not contemplated, the Government was guilty of a serious want of foresight. Sir Alfred Mond rode off on a very queer explanation. "It does not follow," he said, "that because the Office is a building department it employs the architectural talent it possesses. It may be better to get an outside architect, but someone has to look after the outside architect and pay him his money, and someone has to look after the contractor and his accounts, and that is the real function of the Office of Works." If Sir Alfred had left it at that, the whitewash on the Office of Works would have kept fairly fast and opaque; but it flakes off dismally when he adds: "Whether the Office of Works likes to employ its own architectural staff or not must be a matter for the First Commissioner to make up his mind on." Supposing he hasn't one? Many a First Commissioner has been in that parlous case—not Sir Alfred, of course.

Ex-Service Men as Builders

Official information on the employment of ex-Service men in the building trade was issued by the National Federation of Building Trades Employers on April 26. The eighteenth of that month was chosen as the earliest date at which a beginning could be made with the scheme, by which untrained ex-Service men are to be employed for two years at reduced wages, which are to be augmented by a State grant. It will be remembered that the trade unions in the building industry declined to accept similar terms. A fortnight or so must elapse before the employers' scheme can be fairly started, as the machinery of organisation, which the National Federation had long ago perfected for other purposes, has naturally to be adapted to the new uses, but there is no doubt that it will soon be working smoothly. District committees have been set up throughout the country, and these are working under the guidance of regional federations. At this early stage it would be rash to predict either success or failure for a scheme that has in it many elements of danger, while its chief merit seems to be that it is expected to relieve the Government of 50,000 unemployed men, and to accelerate the housing movement.

Building Restrictions to Go

In the House of Lords, on April 26, Lord Burnham presented, with admirable clearness and succinctness, the case against the continuance of building restrictions. What is more, he carried his point. His speech was made in support of a question which, he said, he had put on paper, "with the wish and purpose of bringing to as speedy an end as possible the whole series of arbitrary and unequal restrictions upon building as applied by the local authorities throughout the country, because he believed they had been in restraint of trade." He conveyed it very delicately to their lordships that builders were normally subjected to many severe restrictions, and —for example, under the London Building Acts—had to submit to minute regulations. These regulations might be necessary; but the restrictions that were suggested in 1919 by the Bricklayers' Union, and imposed by the Ministry of Health as what Lord Burnham called "a kind of popularity stunt," were altogether of a different complexion. In the heated imagination of the Bricklayers' Union, all the available materials and labour were about to be absorbed in the erection of "lordly pleasure houses," while the deserving poor were starving for house-room. But in fact the big building firms in the South of England "never did any cottage-building. They had their own particular class of structure, and had a highly expensive and expert staff for that purpose. Cottage-building was left throughout the country to the smaller men; and although it had not been done to any large extent for some few years before the war, it was neither economical nor advisable to turn the bigger firms from their own class of work and to displace the smaller builders." Thus clearly and cogently put, the case for abolition was irresistible, and Earl Onslow, Parliamentary Secretary to the Ministry of Health, was fain to promise sympathetic attention to an amendment abrogating the "luxury-building" restrictions when the newest Housing Bill was under discussion.

The "Empire Memorial" Scheme

For a few days we allowed a model of the proposed so-styled "Empire Memorial" to be exhibited in the Tothill Street Architectural Library. Certain misapprehensions having arisen with respect to this temporary hospitality, we feel obliged to state explicitly that we are in no other way associated with the promotion of the scheme of which it forms a feature. Indeed, having had this opportunity of inspecting the model closely, we may say that while, as an example of the craft of the model-maker, it is admirable, we are quite unable to approve of the design; nor can we recommend the grandiose scheme of which it forms a feature, and we wish to dissociate ourselves entirely from the proposal to spend some two millions sterling on an ultra-ambitious project that seems to us to be undesirable if not wholly impracticable.

Norwich Cathedral War Memorial

It will be interesting to see whether the storm of opposition raised by the proposal to build an additional chapel (as a war memorial) for Norwich Cathedral will cause the abandonment of the scheme. Besides the æsthetic objection, there is a strong protest on the score of economy. Norwich, "the City of Churches," having already thirty-seven such buildings, to spend thirteen thousand pounds on building another would be, it is contended, an act of needless extravagance; and the newspaper correspondent who puts forward this plea offers the timely suggestion that money would be better spent on repairing the roof of the late fifteenth century church of St. George Colegate, where Old Crome, whose centenary is now being celebrated, was churchwarden at the time of his death, and whose marble bust in one of the side chapels is actually exposed to the weather. Sir C. Nicholson has prepared a design for the cathedral addition, and while Mr. Edward S. Prior takes him to task because "the drawing of the chapel, as exhibited in the cathedral, pictures a Romanesque interior with Gothic reconstructions, as if successive centuries had each had a hand in its features, with, as its final furnishing, a confection of Jacobean joinery," the Society for the Protection of Ancient Buildings attacks the Dean and Chapter, against whom, and other Deans and Chapters, it hurls the crowning denunciation that it would prefer to entrust the care of our cathedrals to the Office of Works! For his part, Sir C. Nicholson is setting all the dissidents so beautiful a lesson in courtesy and charity, that one feels a twinge of compunction in joining with his opponents. Be it understood that it is to the scheme, not to the design, that we object.

The Royal Academy Exhibition

The Architectural Room

THE Architectural Room in the one hundred and fifty-third exhibition of the Royal Academy of Arts may, on the whole, be said to be rather more interesting than usual. The exhibits, though still badly overcrowded, are better arranged that is usually the case, and the standard of architectural achievement is higher than it has been for many years past. It is to be noted that photographs no longer have a place in the exhibition.

An exhibit which will attract a good deal of attention is a model of Messrs. Mewès and Davis's London County Westminster and Parr's Bank head office in Lothbury (a building of which the competition drawings were recently illustrated in this Journal). While the passing of Cockerell's bank is to be regretted, we at least have the consolation of knowing that it will be replaced by a very fine building, and one that in the restraint of its architectural character is well in keeping with the City tradition. We would wish that the example set by Messsrs. Mewès and Davis might be generally followed now that so many large sections of the city are undergoing reconstruction. From the model one gets a very good idea of the building in three dimensions, and it is possible to visualise the fine effect of the centre composition as it will appear filling in the vista of Bartholomew Lane.

An example of the modern movement is to be seen in No. 975, "Adelaide House, London Bridge" (Sir John Burnet and Partners, architects), shown in a very effective watercolour drawing. The building is something of a skyscraper (12 storeys in height) conceived in the manner of the Sullivan (U.S.A.) school of architecture of thirty years ago. It takes no account of the scale of the Fishmongers' Hall on the adjoining site, and unduly dominates London Bridge. As a piece of abstract design, however, it is remarkably fine.

No. 970 shows a "New Departmental Store: Perspective from S.W." (R. Frank Atkinson and Cyril A. Farey). The replica of the famed Tower of the Giralda at Seville, which is a feature of the design, seems somewhat out of place in a building of the commercial type.

Messrs. William and Edward Hunt show a rendered elevation of proposed flats in Regent's Park (No. 964) —a clever design, but a little too insistent in the vertical dimension.

One of the cleverest things in the exhibition is No. 963, "Cinema and Concert Hall, Westcliff" (Herbert S. Fleming, architect)—an Italian-cum-Pompeiian design shown in a brilliantly effective watercolour elevational drawing.

Sir Edwin L. Lutyens, R.A., is this year represented by only one exhibit, "The All-India War Memorial, Imperial Delhi," brilliantly shown in a watercolour perspective by Mr. William Walcot, which is notable for the lavish and tremendously effective use of ultramarine. The arch in its general design is strongly reminiscent of the Arc de Triomphe except that blocks of masonry take the place of sculpture groups.

Messrs. Niven and Wiggleworth, in their "Alterations to No. 27 Portland Place, W." (a good pen and ink perspective drawing by Mr. Raffles Davison) show a charming treatment for a corner site—a design, moreover, that has the further merit of carrying on the vernacular tradition.

"Castle Wynd House, St. Andrews," No. 936 (Paul Waterhouse, architect) commands our admiration as much for the delightfully soft character of the drawing as for its penetrating insight into the Scottish vernacular style.

Sir Aston Webb, P.R.A., and Son, are represented by four exhibits, the most important of which is No. 945, "Design for the Bank of Chili, Santiago," a building with an imposing front and an excellent plan.

Messrs. Ernest Newton, R.A., and Sons, show, among other exhibits, a delightful watercolour drawing of Uppingham School Memorial Hall, a design that accords sympathetically with the Rutlandshire tradition. Mention must also be made of the very charming ink-and-wash drawing (from a short distance it has all the quality of a fine etching) of the interior of their Marlborough College Memorial Speech Hall (1,076).

No. 985 "Proposed War Memorial, Queenstown, Cape Colony," one of three exhibits shown by Sir Robert Lorimer, A.R.A., is a really splendid design of the obelisk type, which, however, would have been better without its figures perched on brackets. These, besides detracting from the monumental character of the memorial, are out of scale with the dominating figure above. In No. 1,007, "Westminster School War Memorial," Sir Robert shows a very scholarly acquaintance with the Renaissance of the Wren period. Dr. Busby himself would have been completely at home with this admirable example of traditional design. Equally excellent in the Gothic manner is Sir Robert's "Proposed Memorial Screen and Organ, Merton College Chapel, Oxford" (978).

The only clock tower memorial in the exhibition (No. 1,009), is "The Nicholson Memorial Tower, Leek" (P. S. and J. H. Worthington, architects). Clock towers were much in vogue at the time of the Jubilee, but it is doubtful whether they are altogether appropriate as war memorials. That they are put to this purpose is not, of course, the fault of architects. In the present instance the campanile is singularly well studied.

No. 1,038 "Une Station Balnéaire au Sud d'Espagne, près de Malaga" (T. H. Mawson and Sons, architects) is a design on the grand scale, but too geometric.

Mr. Stanley Hamp is to be congratulated on his very scholarly "Mill Hill School War Memorial," represented by a beautiful wash elevational drawing.

Another very scholarly design is shown in two drawings (914 and 929)—interior and detail of entrance respectively—of the Wolsley Showroom, Piccadilly, by Mr. W. Curtis Green.

Messrs. Mewès and Davis, besides their activities in the City, are carrying on the domestic tradition in the West End. "No. 42 Upper Brook Street, W.1." (919) is a quiet design of late eighteenth century character, which shows a becoming respect for locale.

Another quiet design in the Georgian manner is that for the National Physical Laboratory, Admiralty Research Laboratory, Teddington, by Mr. Frederick A. Llewelyn (934). The only criticism that can be made about it is that the wing appendages are a little lengthy for the centre block.

Messrs. C. F. Doll and C. C. T. Doll show their suggested design for the University of London Buildings on the Bloomsbury site, prepared in 1912. The work is of an expensive and ambitious type, and is not likely to be carried out.

Mr. Robert Atkinson exhibits some characteristically impressionistic colour perspectives, No. 948 being a particularly charming design for a private swimming bath. His other exhibits (952 and 956) "Cherkeley, Leatherhead," are equally brilliant in design and colour treatment.

Mr. Louis de Soissons is to be congratulated upon his very fine design (No. 967) for "Proposed Factory, Welwyn Garden City, Herts.” But, beautiful as it may be, a huge factory building is out of place in the heart of the country. It would be much more appropriately situated in Essex, near the Thames.

Mr. Edward Maufe, in his “No. 73 Redington Road, Hampstead” (1,065) carries on the Hampstead domestic tradition admirably, though the house is rather overweighted by its chimney-stacks.

Sir Reginald Blomfield, R.A., exhibits two arresting designs, both of war memorial character—the first (981), a dignified chapel for the British Military Cemetery, Lyssenthoek, and the other (1,032) a sketch for the Leeds War Memorial.

In the limited space at our disposal we can do no more than touch briefly upon some of the other excellent things that caught our attention during a tour of the walls. Among these must be mentioned 968, “A Villa on the Riviera” (Alfred B. Yeates, architect); 980, “Hammersmith Housing Scheme (Matthew J. Dawson, architect); 999, “Chancel Screen, St. Barnabas, Shacklewell” (Charles H. Reilly, architect); 1,000, “Cuddesdon College, Oxon: Recent Additions” (A. H. Hart and Leslie Waterhouse, architects); 1,012, “New Lodges and Gates at Chequers, Bucks” (O. P. Milne and P. Phipps, architects); 1,036, “Bath Abbey: Proposed New Cloister” (Sir Thomas G. Jackson, Bart., R.A., architect); 1,067, “Cottage at Princes Risboro', Bucks (C. Cowles-Voysey, architect); 918 and 921, “Monastere du Carmel” (Ernest Newton, R.A., and Sons, and W. Nicholls, architects); 971, “Electric Apparatus Factory” (Wallis Gilbert and Partners, architects); and 1,002, “War Memorial Hall, Sheffield” (E. Vincent Harris, architect).

The Sculpture Galleries

WHAT is wrong with British Sculpture? It seems lacking in imaginative conception. In the matter of workmanship there is evident, in the statuary exhibited in this year's Academy, a high degree of accomplishment; and in the interpretation of facial character, as distinct from the minor matter of fidelity in copying feature and expression, there is that which proves the possession of something beyond mere mastery of media. Yet, when a group is attempted, the interpretative touch is commonly absent, the design too often sinking into commonplace conventionality. Sculptors, much more than painters, are too timid to express what they think and feel. Either that or else the Academy is too conservative to admit what is unconventional in conception or in treatment. There is, at all events, nothing in this year's exhibition of sculpture that successfully breaks away from the humdrum.

There are, it is true, a few rather half-hearted attempts to infuse a little imagination, a little poetry, into the conception. There is, for example, a group (1,088: S. Ward Willis) entitled “The Past,” in which an old man with a book is seated on a stone between the dim, half-formed figures of two women, while in front of him, eagerly scanning his inscrutable countenance, is a puzzled little boy. This group certainly essays a mild sort of symbolism, but it does not get a sufficient grip of the beholder to set him wondering for more than a moment what it means—whether the past in the abstract is intended, or whether the old gentleman is ruminating on an actual past, pathetic or lurid. One does not get sufficiently interested in the group to speculate more than momentarily as to its inner meaning. Remembering the impenetrable fog with which Lessing added a supreme terror to the Laocoon, the visitor anathematises mysticism and passes on.

“The Lamp of Memory,” a stone figure forming a portion of a memorial to be erected at Todmorden (1,242: Gilbert Bayes), is another interpretative effort that suggests nothing, unless a reference to Ruskin's Seven Lamps is intended. Speaking generally (and, of course, entirely without reference to the work of either Mr. Ward Willis or Mr. Bayes), one feels that sculptors are tending to the antipodes of the mid-Victorian vice of plying too vigorously the file and the sandpaper. Certainly that strange mania reduced sculpture to the last stage of pernicious anæmia; but the attempt to get away from high finish should not drive us to the opposite extreme. Rodin and his disciples have carried crudeness to such an extreme that reaction cannot be far off. It will not be extreme, but will find the via media between smooth polish and jagged roughness, between inhuman perfection of modelling and offhand carelessness—the cult of the clumsy.

A group that strikes this happy mean is “Blind Humanity” (1,085: Rebecca Matte), in which a muscular blind man and a singularly beautiful blind woman go hand in hand. Both figures are very finely modelled, the anatomy, attitude, and facial expression of the man being particularly convincing. One does not like to see infirmities exploited; but who shall deny to art the fuller range of subject, provided the treatment is artistic? The only fault to be found with these two strong but pathetic figures is that the hands, especially those of the man, seem a trifle too large. This is a very hazardous criticism, because such details are usually the subject of actual measurement—a fact, however, that does not alter one's impression.

Homely pathos is also rendered with beautiful reticence in the seated figure of an old woman who has fallen asleep —perhaps it is the eternal sleep—over her knitting. It is the model of a figure entitled “Rest” (1,247: Hibbert Binney), and erected in the Homes of Rest at Reydon, Suffolk. Nothing could be more simple, nothing more touching, than this gentle, toil-worn old face, which a sculptor of less delicate feeling would have been tempted to furrow with exaggerated lines, and the attitude of limp repose has been caught with remarkable success.

Of purely architectural statuary there is hardly any. In fact, Mr. Bertram Mackennal stands almost alone with his “Sketch Model for Bronze Group for Australia House” (1,125)—horses emerging from the sea. These, with the central figure commanding them, form a finely balanced composition, the horses being nobly conceived and grandly grouped. Another extraordinarily fine composition is Mr. Adrian Jones's “Action Front” (1,248), in which men, horses, and guns are grouped with splendid skill: the scene lives.

War memorials, or details of them, abound. Among them there is nothing quite so beautiful as the memorial to Scottish Nurses, to be erected in bronze and enamel in St. Giles's Cathedral, Edinburgh (1,128: L. F. Roslyn). Without the slightest loss of dignity, this tablet is rather less austere than most memorials. It has even a touch of colour, beautiful enamelled insignia being inserted beneath the broken pediment, in the gap of which stands the majestic figure of St. Andrew with his cross. The lettering is beautiful, and the tablet is of exquisite proportions. Many other memorials we should have liked to mention in detail did space allow. As for the portrait busts and the statuettes, these are so numerous, and of such high merit, that to single out any would be invidious. Exception must be made, however, of the vigorous and realistic bust (1,201: James A. Stevenson) of Sir Henry Tanner, C.B., which we mention for its subject rather than for its treatment; both, however, being super-excellent. But, save for the numerous war memorials, the architectural interest of the exhibition is almost nil.

Architectural Causerie

Architecture at the Academy

At the Academy, not all the good architecture is in the Architectural Department. Several architects are exhibiting paintings in the galleries. Our interest at the private view did not lie there, but in walking through we noticed several paintings and etchings before which an architect must needs pause; and it was not surprising to find, on reference to the catalogue, that some of them were wrought by architects. There are, for instance, two vivid and arresting things by Sir Ernest George, R.A.—namely, "Notting Hill Gate" (No. 594) and "Electric Power Station, Chelsea" (604). Only an authentically endowed artist could see what fine pictures these scenes would make; and only a painter of rare and delicate accomplishment could have materialised the vision. Sir Reginald Blomfield, R.A., has a fine pencil drawing of "Point Hill, Rye" (No. 870), in which quaint old town, or near it, he is at home, or used to be; and we remember a joyous occasion on which he skippered the local cricket team, and in vigorous style knocked up a score that "made a ragshop" of the visiting team—a good team, too. Then Mr. H. Chalton Bradshaw has "The Theatre, Taormina" (No. 679), a painting that shows much perception and more promise.

The New Architectural A.R.A.

Sir John J. Burnet, A.R.A., R.S.A., F.R.I.B.A., who has received widespread congratulations on his election as an Associate of the Royal Academy, studied engineering as well as architecture at the Ecole des Beaux Arts, Paris, an unusual thing for an architect, and a very good indication of Sir John's early determination to be complete master of his subject. His works, taken in chronological order, include: The Royal Institute of Fine Arts, Glasgow (1881); offices for the Clyde Navigation Trust (1886); Edinburgh International Exhibition (1886); Glasgow Athenæum (1889); the Barony Church, Glasgow (1890); Glasgow Western Infirmary Extension (1892-98); Parish Church, Arbroath (1897); Gardner Memorial Church, Brechin (1898); McLaren Memorial Church, Larbert (1900); Atlantic and Waterloo Chambers, Glasgow (1900); Parish Church, Rutherglen (1901); Union Bank of Scotland, head office; Insurance Building, Aldwych (1912); Kodak Building, Kingsway (1913); British Museum Extension (1905-14); Offices in Russell Square (1917). In the present Academy Exhibition he has an extremely fine design for a high building on the north side of London Bridge. Sir John, who was born in 1859, has travelled widely on the Continent and in the United States. At the Ecole des Beaux-Arts he was in the atelier of Pascal, who, it will be recalled, died last year, when Sir John, in the course of an interview with a representative of this Journal, gave some extremely interesting recollections of his old and venerated master.

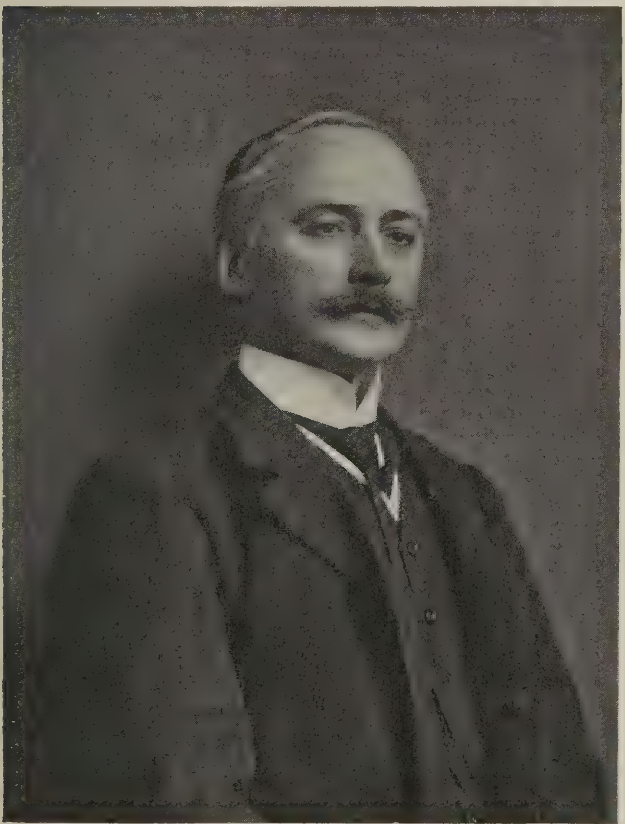


Photo: *Annan.*

SIR JOHN J. BURNET.
Lately elected A.R.A.

Architecture's Many Facets

At last the Royal Institute is giving practical recognition to the neglected truth that architecture should be interesting to others as well as to architects. It has arranged a series of six public lectures on architecture, to be given at the Galleries of the R.I.B.A., at 5 p.m. on the following Thursdays: May 5th, 19th, and 26th, and June 2nd and 9th. A very attractive programme has been arranged. Mr. A. Clutton Brock opened the series on April 28th with a lecture on "Architecture as Everyone's Concern," at which Mr. John W. Simpson presided. Mr. F. C. Eden comes second with "Architecture and Travel," Sir Aston Webb presiding. Thirdly, Mr. Roger E. Fry is to confess some of the "Architectural Heresies of a Painter," which are more likely to be diverting than to harrow the soul; and the remaining dates will be respectively filled by Sir Charles Nicholson, Mr. Henry M. Fletcher, and Mr. H. S. Goodhart-Rendel, who will describe—and, we apprehend, possibly deride—"Some Fashions in Architecture." These lectures, being so rich in personality and subject, should fill the Galleries, and also the pit, boxes, stalls, and balconies, if these existed in a lecture theatre; but will the public get to know of them? May all success attend the effort, which should later be extended to meet the convenience of that very large section of the public that, except on Saturdays, cannot get free to attend a five-o'clock lecture.

Bill-stickers Beware

All the talk about "Art in Everyday Life" seems to be bearing fruit. For instance, nearly all our Government buildings in Whitehall are plastered with bills. That, generally speaking, they are not handsome bills need not be said: they are Government posters. But, handsome or ugly, they ought not to be where they are. In either case, they degrade and disgrace the buildings on which they are plastered. Noble Government buildings are used as advertisement hoardings—no, worse than that. An advertisement hoarding serves the purpose for which it was intended. A Government building defaced with ugly posters is an outrage on one's sense of decency and decorum. The person who is responsible for it ought to be sent to prison without the option of a fine. His vulgar and wicked example has incited similar crimes in others. Here is the London County Council rendering vulgar and vile beyond words the outer walls of Devonshire House. What though the fine old mansion is doomed? Is there no respect for its dignity?

Spoiling our Towns and Villages*

By RAYMOND UNWIN, F.R.I.B.A.

ANYONE familiar with modern industrial towns and villages who has had the good fortune to visit in this or other countries places preserved from a past time little disfigured by modern development must have been struck by one outstanding difference between the two. Broadly speaking, the old is beautiful; the new is ugly. And the more widely such a person may travel, the more countries and races of men he may visit, the more will it be borne in upon him that, apart from the limited phase of modern civilisation, it has been in the past, and still is in the present, the natural and instinctive custom of mankind to spend much care and labour in making his villages and his cities beautiful; and he appears to do this not by compulsion, not through any conscious devotion to art, nor through any wish to demonstrate the extent of his culture, but simply and naturally to satisfy his own liking, to give pleasure to himself and to his fellows.

The Old and the New

Even among what we should call uncultured races we find this general love of beauty; and frequently we find a very high degree of excellence achieved, so that the simple implements of daily life, of the chase, of warfare or of clothing, made by these races are prized by us to-day for their beauty, and are used sometimes to adorn our rooms. In a later stage of development we find small communities of farmers, with a few craftsmen and merchants, perhaps not exceeding 10,000 in all, creating cities and lavishing upon them such an extent of instinctive design and tasteful adornment that the few of such which have remained unspoilt are now models which artists, architects, and builders study in the hope that they may here and there, in fortunate circumstances, be able to reach a standard which at one time was the general average of attainment.

What is the reason of this surprising difference? How is it that a generation which has spread prosperity, power over nature, education, and all that we understand by civilisation and culture, to an extent undreamed of before, nevertheless remains, as regards the standard of beauty in its buildings and its works generally, uncultured and barbarian as compared with nearly every generation that has gone before, almost since the days when its ancestors ran wild in the woods? I do not suggest for one moment that we are inferior to our forefathers; nor would I belittle the great gifts which modern civilisation has brought to mankind, or the extended range of power and knowledge which have been gained. But man is a creature of limited capacities, and what I do suggest is that in overmuch concentration on the acquisition of material wealth, of power over nature, and of stores of knowledge, we have lost sight of the great joys which spring from the exercise of our creative faculties, and particularly the God-like power of creating beauty. I believe that in this lies one of the most deep-rooted defects of modern life, one which is at the bottom of much of the social trouble with which all modern countries are at present torn and distracted.

There are few satisfactions in life greater than those which come to the man who designs and the man who erects a beautiful building, and if to this by no means negligible quantity of pleasure we add that which the building may give to everyone who sees it, passing from year to year, from generation to generation, is it not clear that there can be few ways in which human energy can be spent which will produce a greater volume of pleasure than in the creation of beautiful buildings? I have the good fortune to live in an old cottage on the edge of Hampstead Heath, and I notice that the greater number of those who pass, turn to admire it; and that no small proportion of them pull up and stand for some time, evidently deriving the greatest satisfaction from this bit of beautiful building, which has been conferring this pleasure on countless numbers of people for over 400 years.

Those of our time who can afford it, readily and consistently pay 50, 100, or more, per cent. increased price for a coat of a good cut, or a hat which is really chic, though garments often much more serviceable for all practicable purposes are readily obtainable, and though when purchased at this high price they will only wear the hat on a few occasions, and the coat perhaps for a few months. Yet if these same people are erecting a shop in a main London street, or a few cottages for their employees, they will frequently grudge even the 5 per cent. which would give them the benefit of an architect's skilled advice, and would stand aghast if it were suggested to them that it was worth while to pay another 5 per cent. to secure that their buildings should be beautiful.

If, you may ask, the power to take pleasure in beauty is as widespread as I have suggested, how is it that modern men are content to live among so much ugliness? The fact is that we are very largely creatures of habit; we can become accustomed to almost anything. Men who work in a boileryard cease after a time to be conspicuously harassed by the clanging and beating on the harsh sounding plates, which are torture to the fresh comer. We still dimly recognise some right to be protected from the pain of harsh noises, and an injunction was recently obtained in a court of law against the intrusion of an unduly harsh noise in a residential area. But discords in colour and form may be as harsh and only a little less trying to those who have not become inured to them by long dulling of the sense of beauty. But though men become accustomed to the endurance of harsh noises and sights, that does not mean that they cease to be affected by them, and there is little doubt that the ugliness of modern life is one of the elements driving people restlessly to seek relief in all sorts of pleasures less healthy and less recreating than those to be derived from the creation and enjoyment of beauty. There are many signs of discontent with this state of degradation—for it is no less—into which we have drifted.

All through society we see indications of the deep-seated love of beauty peeping out—the window box of flowers in the slum court and the cherished ornament in the drawing-room, otherwise devoid of beauty, are such; and even in "The Times," so eminently representative of modern civilisation, there are hankerings after better things, and suggestions for a committee of taste and other such expedients, which do not seem to go very far towards reaching or curing the root of the difficulty.

Public Indifference

So long as people do not care for beauty, do not take pleasure in it, so long as they will sacrifice the beauty in their buildings and surroundings to the latest hat from Paris, the houses in Park Lane, or other similar gratifications of the desire for personal display or advertisement of their inclusion in the ranks of the wealthy, so long, in fact, as people generally are so uncultured as to derive their pleasure solely from material possessions and the momentary gratifications after which so many strive and for which they spend their labour and their substance, no efforts of architects and builders, much less of any committee of taste, will be able to recover for us the beauty which has been sacrificed to our modern materialism.

The change, as I have said, is not confined to buildings or to the laying out and adornment of cities; it applies to all the accessories of human life; it applies to dress, to furniture, and to most of the articles which we use; and if some of my remarks seem to reflect upon the aims of modern tailoring and millinery it is not because such matters are unimportant; on the contrary, I believe, as Mr. Edwards has recently pointed out, that the sartorial art is one of great importance, and that people may be expected to show their inherent love of the fitting and the beautiful perhaps first of all in their clothing. My criticisms are directed rather to the fact that it is too often the gratification of the snobbish instinct or the desire for personal advertisement, sometimes with much disregard of beauty and fitness, on which we see people lavishing their care and their substance.

I suggest that all sections of the building industry, whether called architects, contractors, or operatives, may and should take part in a continuous propaganda to bring home to the citizens of this country that, if it is worth while to build at all, it is amply worth while to build beautifully; that this is a duty which we owe to our fellow men to the many generations who may have to look upon our building, and that it is a duty which we owe to our own self-respect. We cannot but deny that the building industry to-day is not in a happy condition.

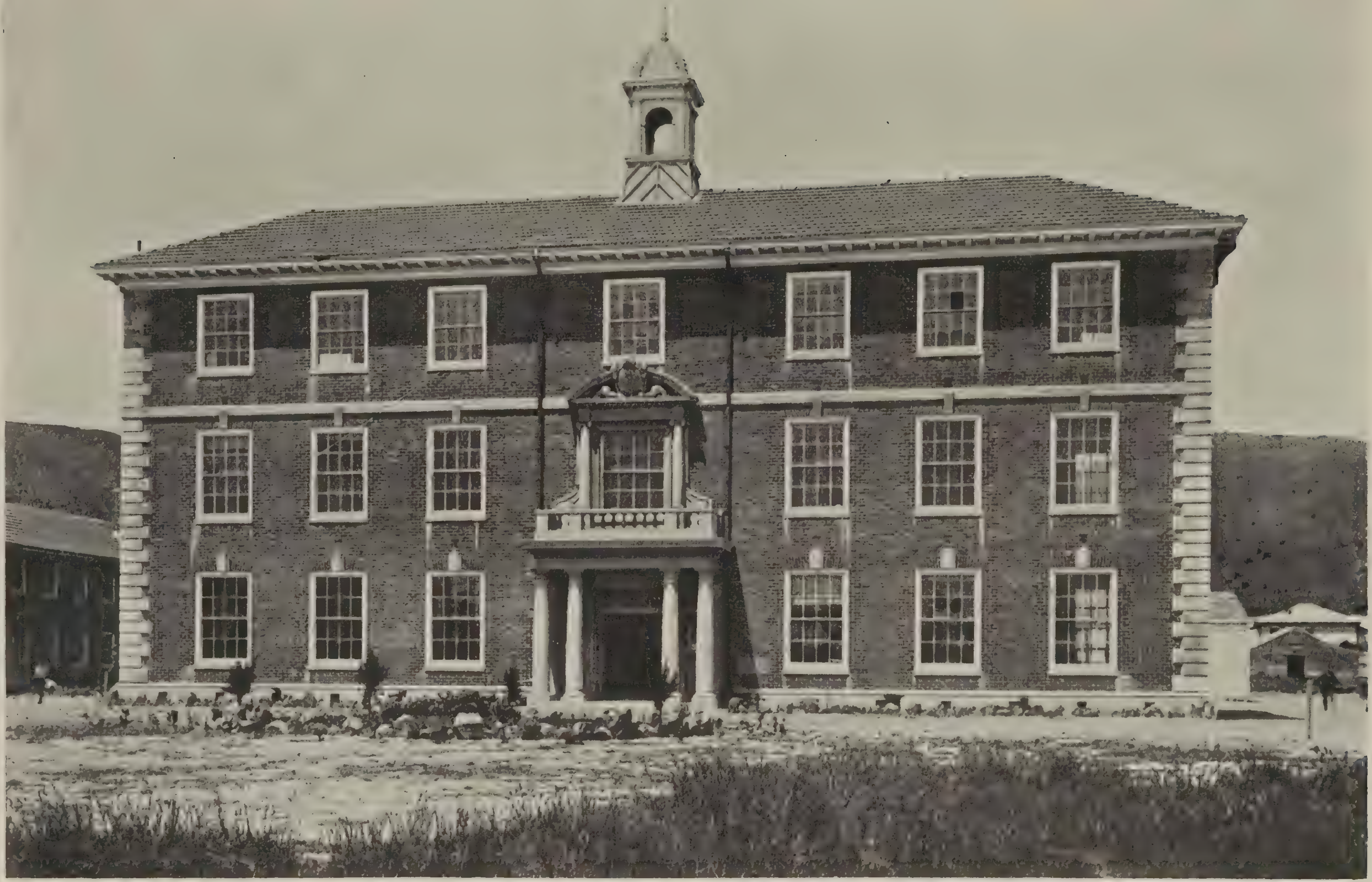
I suggest that we have all been far too much engrossed with that aspect of the industry which concerns the division of the profits and the controls, and have consequently neglected the vital importance of the industry as a craft. In the long run, is it not likely that better conditions can only be secured when all those engaged in the industry have the fullest opportunity to help in securing good building and the fullest share of satisfaction in the pleasure which all may derive from beautiful building?

---

* Extracts from a public lecture arranged by the Architects' Welcome Club at Olympia.

Current Architecture. 78.—Scots College, Miramar, Wellington, New Zealand: Principal Elevation of Centre Block

W. Gray Young, F.N.Z.I.A., Architect



Of the total scheme for this new group of collegiate buildings, only the centre portion of the school block and two sides of one quadrangle have yet been built. The centre block is shown above. The exterior is finished with picked bricks, with artificial stone enrichments and white painted wood cornices. A plan of the complete scheme is given on page 558.

Rural Cottages: Common Sense and Architecture

Following a dinner at the Architectural Association, given on Monday of last week, Sir Lawrence Weaver, Director-General of the Land and Supplies Department, Ministry of Agriculture, gave an informal address, illustrated by lantern slides, on the work accomplished by the Ministry in the settlement of ex-Service men on the land. Sir Lawrence told, with some humour, how this Department had started with great ideas of building "homes for heroes" equipped with parlours, bathrooms, and ample water supply. Economic conditions, however, had rendered these ideals impossible of fulfilment, and the descent had been slow but steady, until the minimum of decency was reached. They had, however, clung to good plans, sound materials, and seemly appearance as primary essentials, and these had, in the main, been achieved. The main responsibility rested, of course, with the various county councils, but headquarters exercised unceasing supervision, and did their best to ensure that the councils should employ none but competent men at a decent wage.

Examples were shown of the Ministry's own buildings, beginning with experimental houses erected at the Amesbury Farm Settlement, Wilts, in conjunction with the Department of Scientific and Industrial Research. Valuable experience had been gained by these experiments, and profiting by the knowledge thus acquired the Ministry had erected at Sutton Bridge and elsewhere houses that were successful, sound, solid, and cheap. In all of these the parlour had been retained, though exigencies of finance had compelled county councils to abandon it in some cases. The bathroom had, however, been stuck to "like grim death," and Sir Lawrence maintained, moreover, that the bath was used to wash in and not as a useful store for potatoes. A separate room, opening off the scullery, had been provided, though it was found necessary to conceal its real function by designating it a "washhouse."

The lecturer described the numerous lantern slides with a running commentary on the constructional features of the various cottages, and drew attention to the fact that the general result of the Ministry's experiments was to establish brick as on the whole the most economical of the different materials employed. They had found, also, that houses were warmer and more satisfactory built two rooms deep, and that for concrete work a continuous cavity was an absolute essential.

At the conclusion of the lecture Mr. J. A. Slater, seconded by Mr. Cyril Farey, proposed a vote of thanks to Sir Lawrence. Mr. W. G. Newton, who was in the chair, said that the pleasant simple work now being accomplished was due to Sir Lawrence and his team of architects, and spoke of the advantages of the experiments in materials made by the Ministry. Architects, he said, were sorely plagued by clients, who were anxious to employ all sorts of pseudo-cheap methods, and the result of the Ministry's investigations provided them with a satisfactory reply to such suggestions. He introduced Major Maule, who was welcomed with much enthusiasm and gave further interesting details of the comparative merits of brick and concrete, viewed from an economic standpoint. One of the chief difficulties of the latter was, he said, the expense of training unskilled labour, but when that was once accomplished the cost dropped considerably. He instanced two pairs of barns at Sutton Bridge, the first of which had cost £300, the second something like £100 less. Major Maule dwelt on the importance of sensible logical building, seemly in appearance and expressive of its purpose.

The following were elected members of the Association: Mr. A. W. Coffin, Miss I. M. Chambers, Miss S. G. Moberly, Miss E. Meikle, Miss E. Mosely, Miss H. B. Robinson, Miss E. M. Charles, Miss B. A. Charles, Miss K. E. Woodger, Miss E. W. Scott, Mrs. R. Gollancz, Miss A. F. Jones, the Hon. Margaret A. Buckmaster, Miss M. Crosbie-Hill, Miss H. E. Heyworth, and Miss Winifred Ryle.

Correspondence

Building Contracts

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The Council of the Royal Institute of British Architects have had under consideration the Form of Contract No. 3 which is issued by the Ministry of Health. My Council consider that this Form leaves too much in the hands of the contractor, who is protected at every turn and has little responsibility. In my Council's opinion the ordinary lump sum contract is greatly to be preferred, both from the employer's point of view and in the interests of the ratepayer.

IAN MACALISTER,
Secretary, R.I.B.A.

Birmingham Housing Director's Report

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It has come to the notice of my Council that a report on Birmingham Housing Schemes issued by the Birmingham Housing Director has obtained a wide circulation amongst local authorities and others interested in housing. Should a copy of this report come to your hands, I desire to draw your attention to the fact that certain of the statements contained in it are open to question, and have formed the subject of meetings between representatives of the Birmingham Architectural Association and members of the Birmingham Housing Committee's technical staff.

The following extracts from the newspaper reports of the Birmingham City Council meeting on April 5 last form an interesting commentary on the report referred to:

"Mr. James, chairman of the Housing Committee, said he wanted to tell the Council quite frankly that the figures of cost per house shown in the committee's last monthly statement were quite alarming, and he desired to warn the Council that they would become even more so."

The Housing Department was strongly criticised at this meeting, and a resolution was adopted that the operations of the Housing Committee be investigated by a special committee of enquiry, who shall report their findings to the City Council.

At the same meeting it was resolved that the development of three estates be placed in the hands of unofficial architects.

IAN MACALISTER,
Secretary, R.I.B.A.

Enquiries Answered

Books on Architects' Working Drawings.

J. R. writes: "(1) Please mention instruction or reference books on architects' working drawings giving half-inch details and full-size details, well illustrated and up to date. (2) Is there a good correspondence course in quantity surveying for the Quantity Surveyors' Association's examinations?"

—(1) "Practical Notes for Architectural Draughtsmen," by A. W. S. Cross, M.A., F.R.I.B.A., and Alan E. Munby, M.A., F.R.I.B.A. (Technical Journals). (2) Write to Geo. Ellis, 47 Dalkeith Road, Ilford; or Bond and Cockrill, 115 Gower Street, W.C.2.

Moisture on Walls and Ceilings.

SUBSCRIBER writes: "I am putting a concrete dome, about 20 ft. radius, over a balcony in a picture house. What method, if any, can I use to prevent condensation on its surface?"

—With a rise of the air temperature, or increase of humidity, any non-porous surface remaining at a lower temperature will show the deposition of moisture upon it until it reaches the general temperature of the air. The only remedy is to render the surface porous by plastering it so that it will absorb the moisture at the time and give it up gradually afterwards. The effect can be seen in a private house—wherever there is a sudden rise of temperature outside the varnished surfaces will be damp while the plain papered or distempered surfaces will remain dry. A large concrete dome could have a gutter formed round the base on the inside instead of plastering it.

HENRY ADAMS.

Heating a Cinema.

R. S. writes: "Could you advise me (1) of an economic but suitable method of heating a cinema of a seating capacity for 1,500; (2) the names of the firms who specialise in this kind of heating?"

—Of the various methods of heating a building of this character undoubtedly the best and most simple is by low-pressure hot water with radiators in recesses formed in the walls.

The boiler should be at the lowest point in the building and sufficiently below the floor level to permit ample rise and fall for the main heating pipes, and it is an advantage if the trench formed to contain the main flow and return pipes is of sufficient size to allow access for repairs. Each radiator should be supplied with two cocks so that if anything goes wrong with any of the radiators it does not necessitate the whole of the installation being out of action while repairs are effected. Two separate boilers should be used for the same reason in case anything goes wrong with one of them.

The ventilation should be considered in relation to the heating system, so that inlets for fresh air and extracts for foul air are placed in the most effective positions to ensure that the building is kept clear and free from an impure atmosphere.

There are many firms who specialise in heating, especially for cinemas, the names of which can be ascertained from an inspection of the advertisements in the technical papers. Messrs. W. J. Burroughs and Sons, Ltd., 143-144 Holborn, E.C.1, and Messrs. Strode and Co., Ltd., 48 Osnaburgh Street, N.W.1, are two of whom the writer has personal knowledge.

C. H. I.

(See also ARCHITECTS' JOURNAL, December 29, 1920.)

The Architects' Welcome Club Dinner

An entirely enjoyable evening was spent at Olympia on April 22, when the Architects' Welcome Club, representing the R.I.B.A., the Society of Architects, and the Architectural Association, entertained a number of guests to dinner and an excellent musical entertainment in the Pillar Hall.

In proposing the toast of the Building Exhibition, Mr. Simpson, P.R.I.B.A., the chairman, congratulated both Mr. H. Greville Montgomery and his brother on the success of this, the twenty-fifth of the series. He referred to the approval expressed by the King and Queen at their recent visit to the exhibition and spoke optimistically of the signs of recovery shown by the building industry. Dealing with the importance and value of the exhibition, Mr. Simpson laid stress on the fact that publicity is essential to commerce, and urged that public interest should be encouraged by every possible means.

Mr. Montgomery replied, and Sir Charles Ruthen, proposing the health of the guests, alluded to the representative nature of the gathering, which included architects, builders, quantity surveyors, and concrete merchants. Mr. Forsdike, president of the National Federation of Building Trades Employers, responded to the toast and referred to the powerful combination present that evening. He remarked on the change which had taken place in the industry during the last few years, tending to a closer association between building employers, architects, and quantity surveyors, and emphasised the value of such a relationship. Mr. J. W. Lorden, M.P., proposed the health of the chairman and paid a graceful tribute to his services to the building industry. Architects and builders were, he said, complementary to each other, but all alike were handicapped by high costs.

Scots College, New Zealand

The site of these buildings, at the junction of two roads, is long and narrow, and is flat with the exception of the back portion, which is higher. This has been levelled off to form a terrace 16 ft. above the playing fields on which the buildings have been erected. A scheme has been prepared to give accommodation for 500 boys, of whom 200 are to be boarders. Immediate accommodation was required for 100 boarders and 120 day boys. The centre portion of the school block and two sides of one quadrangle, with the kitchen quarters, have now been built. The exterior of the building has been finished with picked bricks, with artificial stone enrichments and white painted wood cornices. The future additions will be two storeys in height, and the cornice will line up with the string course above the first-floor windows of the main block. The estimated cost of the complete scheme is £90,000.

R.I.B.A. Council Meeting

At the last meeting of the Council of the R.I.B.A. the following business was transacted:—

Annual Exhibition of Architecture.—A Joint Committee, representing the Council and the four Standing Committees, has been appointed to organise the first of the Annual Exhibitions of Architecture, which will be held in the R.I.B.A. Galleries.

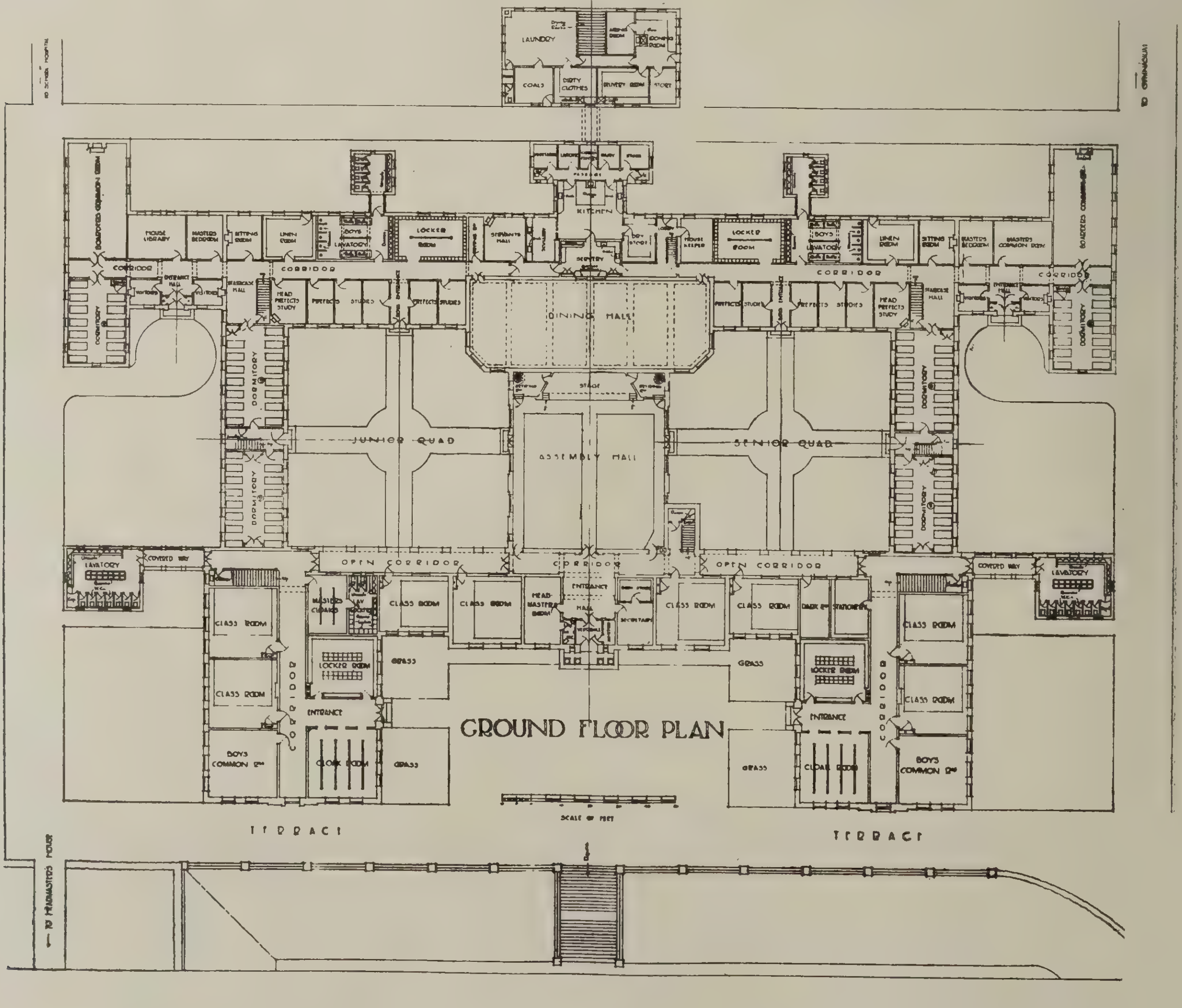
Garden Party.—A garden party has been arranged for June 28 in the gardens of the Zoological Society.

Proposed Charter for the Incorporation of Scottish Architects.—The Royal Institute Council have informed the Council of the Institute of Scottish Architects that they will not oppose the application for a Royal Charter for the new Incorporation of Scottish Architects.

Conditions of Contract.—The Surveyors' Institution, the National Federation of Building Trades' Employers, and the Society of Architects will be invited to appoint representatives to attend a Conference on the subject of Conditions of Contract.

The Ministry of Health's Contract No. 3.—A public statement on this form of contract is to be issued for the guidance of architects and public authorities.

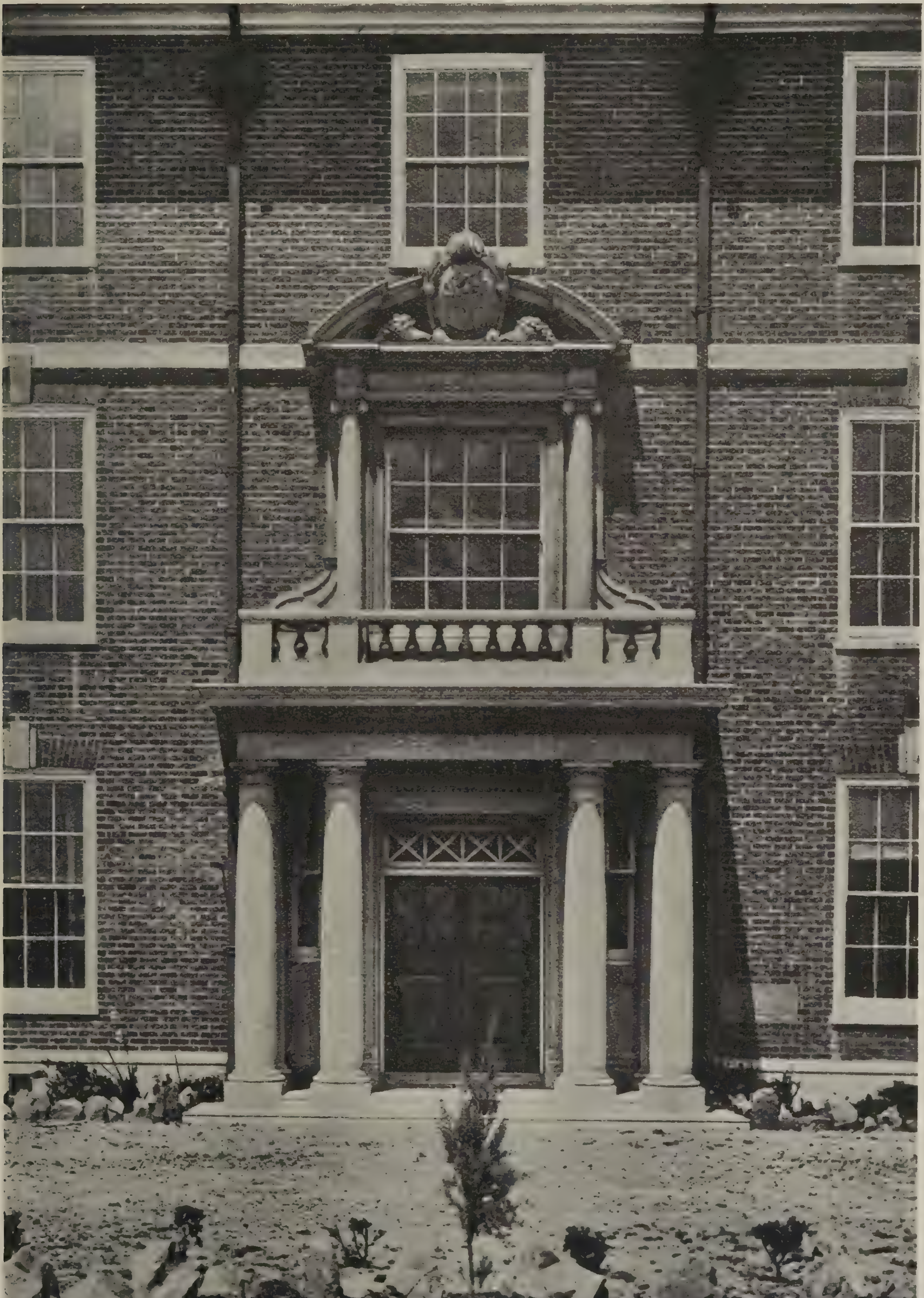
The Renfrew War Memorial Competition.—This Competition has been banned because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.



SCOTS COLLEGE, MIRAMAR, WELLINGTON, N.Z.: GROUND-FLOOR PLAN: W. GRAY YOUNG, F.N.Z.I.A., ARCHITECT.

Current Architecture. 79.—Scots College, Miramar, Wellington, New Zealand: Main Entrance

W. Gray Young, F.N.Z.I.A., Architect



Mr. W. Gray Young is doing an excellent work in New Zealand in carrying on the eighteenth-century architectural tradition of the Mother Country. In the above example he has ably adapted the "Georgian" model to local requirements. Some general notes on the work are given on page 558.

Floor Collapse: Verdict of Accidental Death

At the City Coroner's Court, on April 18, Dr. F. J. Waldo concluded his enquiry concerning the death of John Hockley, forty-six, and John Lawrence, fifty-one, labourers in the employ of the Gresham House Estate Company, lately living at Edmonton, who were killed through the collapse of a floor during the reconstructon of Gresham House, Old Broad Street, E.C., on March 30.

James Brown, foreman, said he was not aware that men were working in the basement until the accident occurred. There were three or four tons of material on the floor, but some of it had been thrown up during the work of rescue.

Mr. Martin Lucas Saunders, of 4, Coleman Street, City, an architect and surveyor, said he was inspector of dangerous structures under the London Building Act. He had nothing to do with the pulling down of buildings, but he had to do with the adjoining buildings. In the case of Gresham House, two processes were going on at the same time; they were pulling down and building up. After the accident he found that four corbels and two girders had snapped, the result of a heavy impact. A portion of the floor was covered by a reconstruction, and a steel stanchion had been inserted. If this stanchion fell the impact would have been sufficient so to damage the corbels, etc., as to cause them to collapse later. He could not say how long the fracture had been in the corbel before it gave way. The stanchion might have done the damage four or five months previously. In his experience it was not usual or necessary to shore up the floor of a single-storey building in course of demolition. He calculated that the two bays should have borne a weight of twenty-two tons. He had known the firm of B. Goodman for many years and had never known of any accident to life or property before..

Mr. H. T. Desch, a director of Holland and Hannen & Cubitts, Ltd., builders, stated that he had known the firm of B. Goodman for very many years. They had done a considerable amount of work for his firm and it had always been done carefully and properly, and he had never known anything done recklessly or heard of any accident to life or property caused by them.

Messrs. Trollope and Colls, Ltd., builders, and Messrs. Higgs and Hill, Ltd., builders, gave similar evidence.

Mr. George Hubbard, F.R.I.B.A., stated that he had known and employed the firm of B. Goodman for many years, and had always found them very satisfactory in every respect.

Mr. Keynes Purchase, F.R.I.B.A., gave evidence of a similar character.

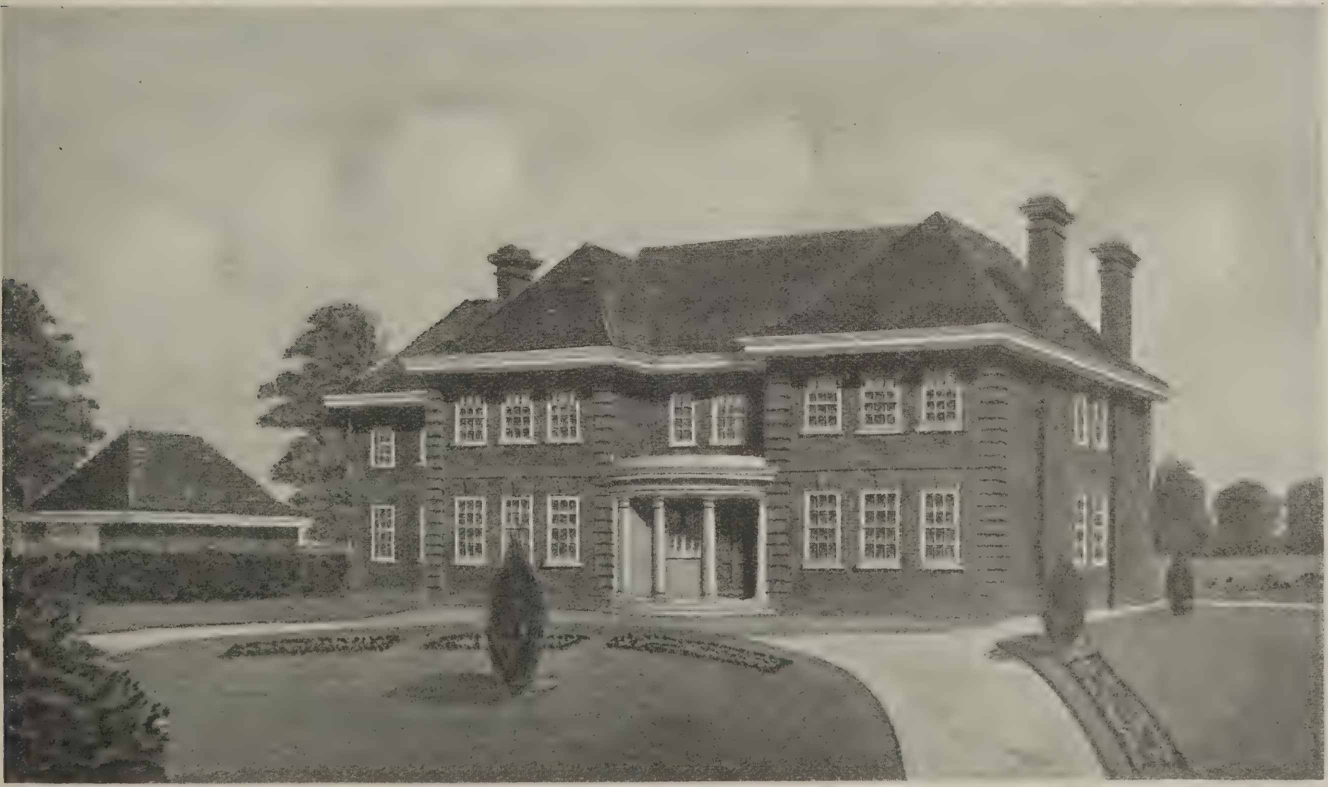
Mr. Ernest Griffith Price, trading as B. Goodman, said he had been carrying on business as a housebreaker for over twenty years. His firm, he thought, was the largest in London, employing over 500 men. He had done most of the large demolition contracts in London during the past twenty years, including the pulling down of the G.P.O. He estimated that during the last three or four years he had done at least 80 per cent. of the demolition work in the City. During the whole time he had been in business he had never had an action against him for damage to property and, although his trade was a dangerous one, he had only had one death amongst his men during the last six or eight years. That was caused by a man falling off a scaffold 10 ft. high. He had never heard of any housebreaker strutting up a back addition floor. It was not the expense, which was trifling; it was simply not necessary. Five similar back additions had already been demolished on this job satisfactorily. The men should not have been underneath. This was not because an accident was to be expected but as a matter of principle. The floor would have been taken off next day and the bricks then stacked.

The Coroner said the jury must consider the question of manslaughter if they thought there had been gross negligence.

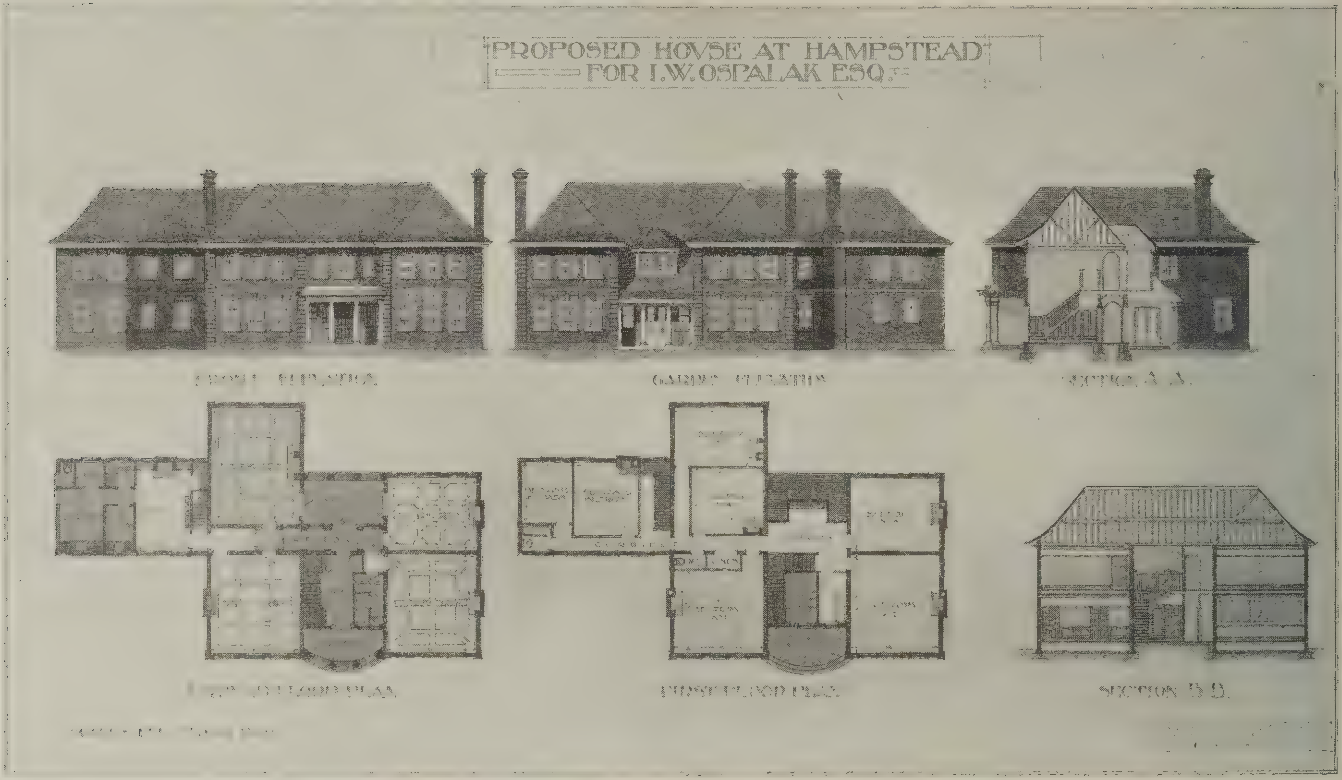
The jury returned a verdict of "Accidental death" in each case.

Proposed New House at Hampstead

This house has been designed for Mr. I. W. Ospalak by Mr. Alfred A. Ospalak, architect, of Westminster. It is characterised by simplicity, with very careful attention to detail. A purple grey-mottled brick, possibly a Crowborough multicolour, will be used for the general facing, and quoins, arches, string, and plinth will be picked out in a good red brick. Sand-faced tiles will be used for the roof. A special feature will be made of the wooden cornice, the stone porches, and lead rainwater pipes and heads. As at present proposed, some excellent fibrous plaster ceilings will be used in the reception rooms, and possibly some verv fine old panelling will be re-used in the dining-room. The corridor between the billiards and morning rooms lends itself very well for fine architectural treatment, and this will be taken advantage of. The site has been laid out with as many conveniences as possible upon about an acre of ground. The contractors are Messrs. Ospen and Williams, Ltd., of King's Buildings, Smith Square, Westminster, S.W.1.



PROPOSED HOUSE AT HAMPSTEAD. ALFRED A. OSPALAK, ARCHITECT.



To Make the Public Care

The first of a series of six public Thursday afternoon lectures on architecture was given at the R.I.B.A. last week, when Mr. A. Clutton Brock addressed an overcrowded audience upon "Architecture as Everyone's Concern." Mr. John W. Simpson, President R.I.B.A., occupied the chair.

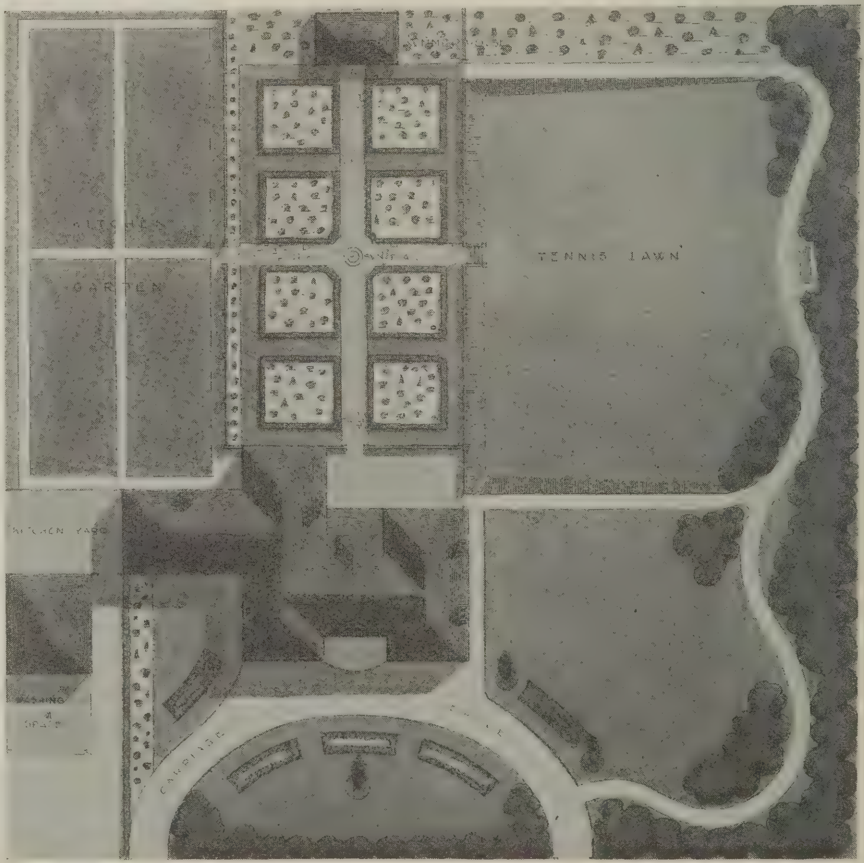
Mr. Clutton Brock urged that we should take our architecture as sensibly and as seriously as we take our motor-cars. His main point was that if people took the trouble to know about their houses and public buildings as they did about their motor-cars and tramway services they would get better work. If you tried to get people to take a car with all sorts of filigree trimmings they would be suspicious at once, and think that the ornaments were a disguise to bad design and mechanism. Nevertheless, few people questioned a building decorated with all sorts of applied ornament that had nothing to do with its purpose and design. He had seen the Tower Bridge when building, and before the casework of stone had been applied, and it was a thing of beauty—functional beauty, maybe—but as he saw it then, with its girders going up into the air, it seemed what it was—a gateway to the sea. But somebody had had too much money to spend, and the girders had been encased in stone, with holes in the top through which defenders of the city might pour melted lead and pitch!

It took more talent to design a plain building than one that was ornamented. Every woman knew the difficulty and expense of buying a good hat of plain design and good material, or even a match-case or salt-sellar. The old saying, "A penny plain and twopence coloured," had been reversed, and it was "twopence plain and a penny coloured." It was the same with architecture. The weaker the building the more it was disguised with ornament.

It was a fact that one became tired walking down an ugly street. In the colonnade of St. Peter's one felt fit enough to knock down twenty men, but one did not have that feeling in Piccadilly Circus.

He instanced Bentley's Westminster Cathedral as an example of perfect design and material, but complained that it was being spoiled since his death.

A vote of thanks to Mr. Clutton Brock was moved by Major Corlette, and seconded by Mr. Theodore Fyfe. Mr. C. H. Townsend moved a vote of thanks to Mr. John W. Simpson and the R.I.B.A. Literary Committee for their thought in promoting the addresses.

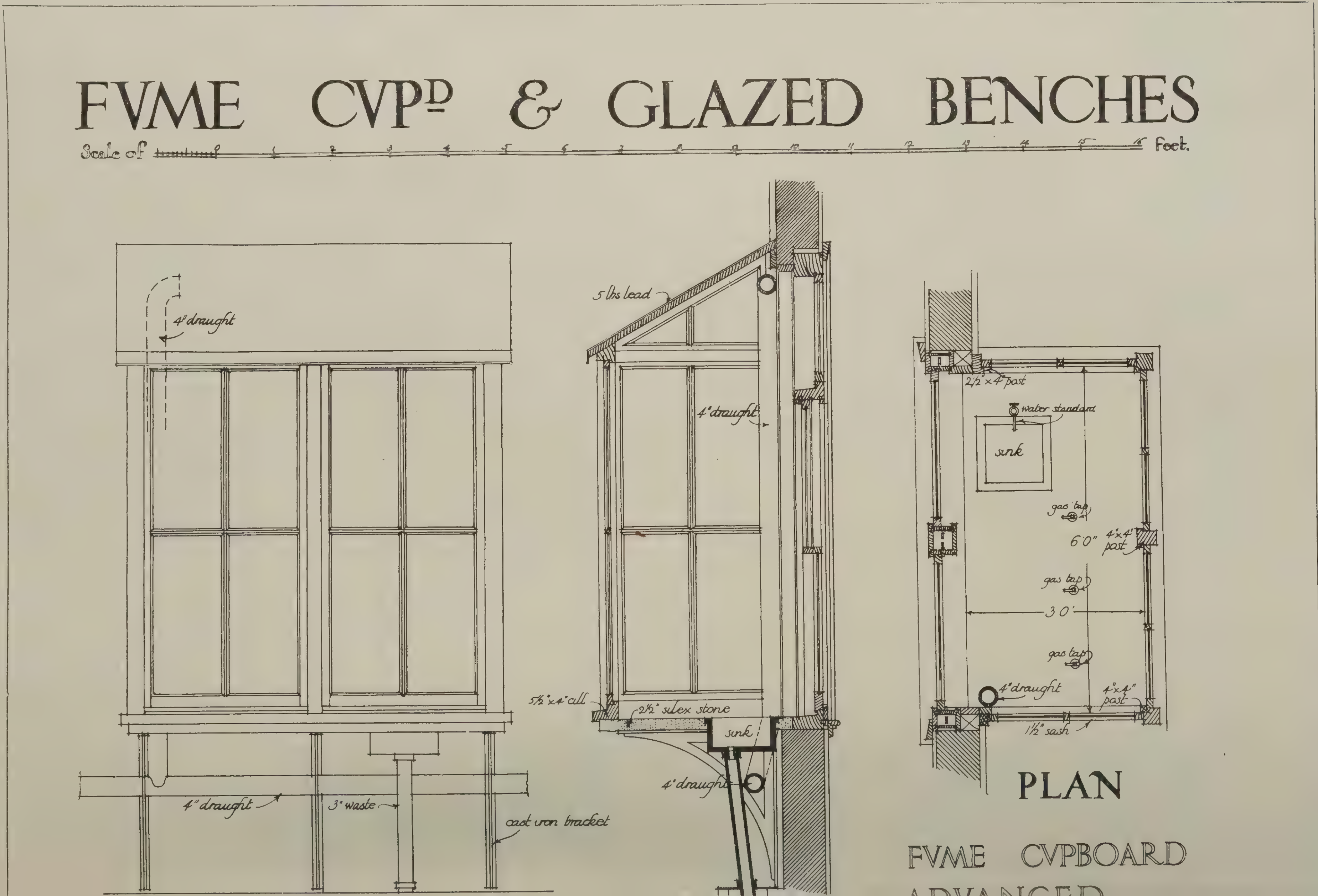


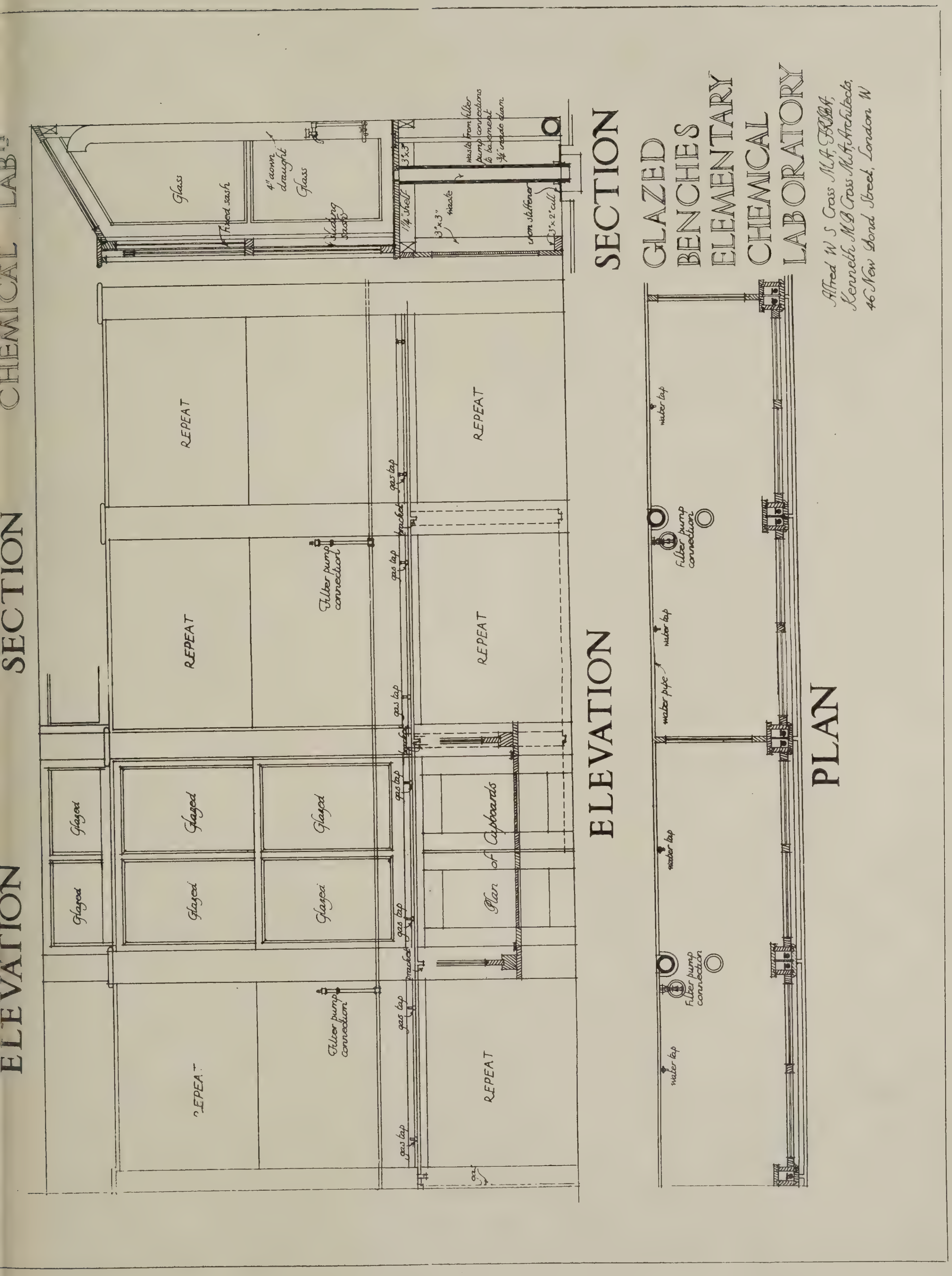
GARDEN PLAN OF HOUSE AT HAMPSTEAD. ALFRED A. OSPALAK, ARCHITECT.

Practical Notes for Architectural Draughtsmen (Series II).—Technical Schools and Science Buildings

I. Fume Cupboard and Glazed Benches

A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, M.A., Architects





The above drawing is the first of a new series of plates showing details of Technical Schools and Science Buildings, specially prepared for this Journal by Messrs. A. W. S. and Kenneth M. B. Cross. Others will follow at regular intervals. A full description of the above details is given on page 568.

Societies and Institutions

Royal Technical College, Glasgow

Several interesting and instructive Saturday afternoon visits have been paid by the students and staff of the Architecture and Building Day and Evening Classes of the Royal Technical College, Glasgow. One of the visits was paid to the housing scheme at Gilshochill, which is being carried out for the Glasgow Corporation under the direction of Mr. Peter Fyfe, the director of housing. The resident clerk of works, Mr. Brown, who conducted the party over the houses, was asked many questions regarding points in their construction which were novel, and the visit proved to be a most instructive one.

The large additions being made to the Fever Hospital at Knightswood for the Corporation, under the direction of Mr. Thomas Nisbet, C.E., Master of Works and City Engineer of Glasgow, have also been visited. Mr. Tran, clerk of works, conducted the party over the buildings, which are in all stages of construction.

Another visit was to Townhead Wright Works, Dobbies Loan, Glasgow, belonging to Mr. John Cochrane, who very kindly brought out his foremen and workmen on a Saturday afternoon, set his machinery in motion, and provided an admirable object lesson on workshop arrangement, appliances, and wood-working machinery.

At the close of each visit Professor Gourlay proposed, and the students accorded, a very hearty vote of thanks to all who had granted permission or in any other way assisted in making the visits so interesting and successful.

Leicester Society of Architects

There was a large attendance at the "Students' evening" held in connection with the Leicester and Leicestershire Society of Architects. The drawings submitted in competition for prizes offered by the society were on view, and the exhibits included drawings of Newbold Verdon Hall, the Manor House, Desford, Porch at St. Martin's, and the Screen at St. Mary's.

Prizes were awarded as follows:—Messrs. A. L. Sharpe (president's prize, five guineas), C. F. M. Keay (three guineas), C. Cheek (two guineas), F. M. C. Noble (two guineas), and E. V. Price (two guineas).

The President (Mr. W. K. Bedingfield) said he had been a member of the Society for twenty years, and had on no previous occasion seen such magnificent work, viewed in bulk, as was exhibited that evening.

Mr. George Nott, A.R.I.B.A. (of the Leicester School of Art) criticised the students' efforts and gave useful hints. He praised measured drawing, believing that it helped the student to visualise his work. If he could do that he had accomplished a great deal. Mr. Nott suggested that for measured work a building should be selected which, as far as possible, contained a concentration of features. They should try and catch the spirit of the work they were measuring. Visual training, as applied to architecture, was a very fine thing; it showed a keen appreciation of scale and perspective. After criticism of the work, Mr. Nott said it was a very creditable collection, especially remembering the small experience of several of the prize-winners.

The chairman spoke of the splendid advantages and the opportunities available to the students of to-day compared with those at hand when the older members of the profession were studying. By studying old work and profiting by mistakes, they could get away from the trammels of tradition. The chairman referred to the good work of Messrs. Nott, Bryan, and W. Keay.

Reading Society of Architects

The following resolution has been passed by the Council of the Reading Society of Architects. The Council of the Reading Society of Architects, having seen in the local Press a reproduction of a drawing showing the Friar Street front of the proposed head post-office for the County Borough of Reading, and assuming that the building actually proposed is fairly represented by that print, whilst recognising the quiet restraint and many excellences of the design from an academical point of view, nevertheless, from a public point of view, feels compelled to voice the general feeling of disappointment felt with regard to the elevation of the building on the following grounds:

1. That the design lacks the character, dignity, and importance which the size of the town, the purpose of the building, and its position demand. This criticism is not intended to be against the adoption of the Georgian style, but only against its suggested application.

2. That the design does not indicate a building belonging to an important State department, and is void of the generally recognised attributes of such a building.

3. That the entrance doors for the public and the central post-box are inadequately emphasised. Moreover, apparently there is no provision for the proper display of the necessary public notices.

4. That the example set by a great State department should give a lead for a higher standard of architectural beauty and fitness.

5. That the design has evidently been produced with laudable economic intentions, but it is felt that many advisable improvements may be made without unduly increasing the cost.

Northern Architectural Association

The annual meeting of the Northern Architectural Association has been held under the chairmanship of the president, Mr. C. S. Errington. The annual report showed a total membership of 185, comprising seventy-two members, two hon. members, seventy-eight associates and thirty-three students, as compared with 183 in 1920. The work of the session was outlined, and it was stated that protests had been made against the action of the Ministry of Health in introducing H.M. Office of Works into housing schemes in the district in place of architects already appointed. The Newcastle Colleges appeal to the members had had a gratifying response. The opinion was expressed by the Council that all control and restriction on the building industry ought to be removed.

Moving the adoption of the annual report, the President said the work of the Association was approaching what it was in pre-war times, though they were aiming at something more than the pre-war standard. Mr. William Milburn seconded, and the report was adopted.

The following were declared elected to the respective offices: President, Mr. T. R. Milburn; vice-president, Mr. W. T. Jones; hon. treasurer, Mr. J. T. Cackett; hon. librarian, Mr. F. N. Weightman; hon. secretary, Mr. G. T. Brown; assistant hon. secretary, Mr. G. H. Gray; Council, members, Messrs. P. L. Browne, C. I. Greenhow, N. E. Leeson, C. T. Marshall, L. W. Taylor; associates, Messrs. S. F. Bestow, G. E. Charlewood, and T. Harrison; hon. local secretaries, Sunderland, Messrs. J. Hall; Durham, W. T. Jones; South Shields, J. H. Morton; Darlington, W. J. Moscrop; Carlisle, G. D. Oliver; Alnwick, G. Reavell.

Sheffield Society of Architects

At the annual meeting of the Sheffield Society of Architects and Surveyors, Mr. C. B. Flockton was re-elected president, and Mr. J. R. Wigfull vice-president and hon. secretary, whilst Mr. R. W. Fowler was appointed treasurer. The report, read by Mr. Wigfull, referred to the way in which the Department of Architecture had been saved to the University, and to the appointment of Mr. F. Radford Smith as lecturer It also referred at length to the activities of the Society in respect to various housing schemes, and to the fact that the Society's president had been a member of the Council of the Royal Institute during the past year.

Architects as R.E. Reserves

Mr. J. W. Simpson, P.R.I.B.A., has written to Major-General Thuillier, Commandant, the School of Military Engineering, that the desire that the military and civil branches of the architectural profession should be kept in touch with each other is very cordially reciprocated by the Royal Institute, and its great organisation throughout the British Empire is placed at his service for such a purpose. "The fact that many hundreds of architects were engaged with the R.E. during the war in every kind of technical operation indicates the fertile recruiting ground available in case of need, and the normal education of architects would appear to be a sound basis of training for R.E. officers. With minds formed to plan schemes carefully in advance, and to pay meticulous attention to detail in their execution, their natural destination in warfare is the Corps of Royal Engineers—that essentially scientific and professional body of soldiers in which correct practice is inspired by genius and raised to the level of an art. It may, perhaps, be possible to assist in maintaining contact between our two bodies by an interchange of students in connection with the Reserve of Officers, and we shall be happy to discuss any suggestion which may be useful in this respect. Architects, moreover, are concerned especially with the artistic expression—which is synonymous with the economic expression—of construction, and would gladly advise and help, whenever desired, in the design of your monumental barracks and other military buildings." General Thuillier will bring the matter before the War Office.

Building Trade Employers at Olympia

During their official visit to the Building Exhibition, the president and the Executive Council of the National Federation of Building Trades Employers were conducted round the exhibition by Mr. H. Greville Montgomery, and were afterwards received by Sir Charles Ruthen and Mr. G. Gilbert Scott on behalf of the Society of Architects and the Architectural Association. The parties afterwards adjourned to the Pillar Hall, where the president, Mr. A. J. Forsdike, welcomed the representatives of the architectural bodies and about 500 members of the Federation from all parts of the country. After tea and music, which was provided by the courtesy of Mr. Montgomery, speeches were made, in the course of which Mr. Forsdike said that it was a matter of some considerable gratification to him that during his year of presiding such a joint reception should have been held.

Technical Schools and Science Buildings

In this issue we begin a new series of Practical Notes for Architectural Draughtsmen—on technical schools and science buildings—in continuation of the very successful series published some years ago. The first example shows a fume cupboard and glazed benches.

Fume cupboards, or draught closets, as they are sometimes called, are essential fittings in modern chemical laboratories in order that experiments involving the production of unpleasant or dangerous gases may be carried out in a convenient and sanitary manner. As will be seen from the accompanying drawings, the internal dimensions of a typical fume cupboard are 6 ft. by 3 ft., though supplementary cupboards of simpler and smaller types of design should also be provided in a well-equipped laboratory. In principle the types are similar: a shelf of stone or other suitable material is supported on brackets at a height of about 3 ft. from the ground, and the cupboard is formed by means of plain glazing fixed in an easy-running sliding sash-light to enclose the opening. Gas taps, numerically proportionate to the size of the cupboard, and a sink and water standard are provided, and the extract, or draught flue, which is, of course, the most important feature of the fitting, is formed at the top of the cupboard; the roof is usually sloped in order to conduct the noxious fumes to this point in the most expeditious manner.

The draught may be produced either by means of an electric extract fan placed near the top end of the flue, or by heating the air at the lower extremity of the pipe and thus causing it to rise. It will be found to be more convenient in practice to place fume cupboards against external walls, and, if possible, to keep them away from windows whose ventilating and lighting functions they necessarily obstruct. A good proportion of fume cupboards to students is one to every group of eight students, and they should be so placed as to be easily accessible from the ordinary working benches. Glazed benches fitted with extract flues, waste filter taps and gas and water standards are frequently provided in elementary chemical laboratories, sometimes on the assumption that every pupil in the class will be experimenting with odoriferous gases at the same time. As shown in the illustration, the compartments are arranged in sequence and there is accommodation for two students at each compartment.

Publications Received

How England is Meeting the Housing Shortage. By Lawrence Veiller, Secretary of the National Housing Association, U.S.A.

"The Ricker Library of Architecture." By N. C. Curtis, The University of Illinois, Urbana.

"The Berks, Bucks, and Oxon Archæological Journal." Autumn 1920. Edited by the Rev. P. H. Ditchfield, M.A., F.S.A., and Mr. John Hautenville Cope. Published for the Berkshire Archæological Society by Basil Blackwell, Broad Street, Oxford. Price 3s. net.

The Print-Collectors Quarterly, April, 1921. Edited by Campbell Dodgson, C.B.E. Contents: The Etchings of J.-L. Forain, by Campbell Dodgson; the Etchings of G. B. Tiepolo, by A. M. Hind; Fresh Light on Alex. Cozens, by A. P. Oppé; the Etchings of E. S. Lumsden, R.E., by Malcolm C. Salaman. Price, 20s. a year. Messrs. J. M. Dent and Sons, Ltd., 10-13 Bedford Street, London, W.C.2.

A History of French Architecture from the Death of Mazarin till the Death of Louis XV. (1661-1774). By Sir Reginald Blomfield, R.A., Litt.D., M.A., F.S.A. Two volumes. Price, £4 4s. net. Messrs. G. Bell and Sons, Ltd., York House, Portugal Street, London, W.C.2.

Sand Lime and Other Concrete Bricks. By H. O. Weller, B.Sc., M.Inst.C.E., Director of Building Research. Building Research Board Special Report, No. 1. Price, 3d. net. Copies may be purchased through any bookseller or directly from H.M. Stationery Office at the following addresses: Imperial House, Kingsway, London, W.C.2, and 28 Abingdon Street, London, S.W.1; 37 Peter Street, Manchester; 1 St. Andrew's Crescent, Cardiff; 23 Forth Street, Edinburgh; or from E. Ponsonby, Ltd., 116 Grafton Street, Dublin.

Laboratories: Their Planning and Fitting, by Alan E. Munby, M.A., F.R.I.B.A., with a historical Introduction by Sir Arthur E. Shipley, G.B.E., Sc.D., LL.D., F.R.S. Price 25s. net. G. Bell and Sons, Ltd., York House, Portugal Street, W.C.2.

Law Report

Heavy Claim for Structural Alteration and Repairs

Hampton and Sons v. Munroe.

Official Referees' Court.
Before Mr. Pollock.

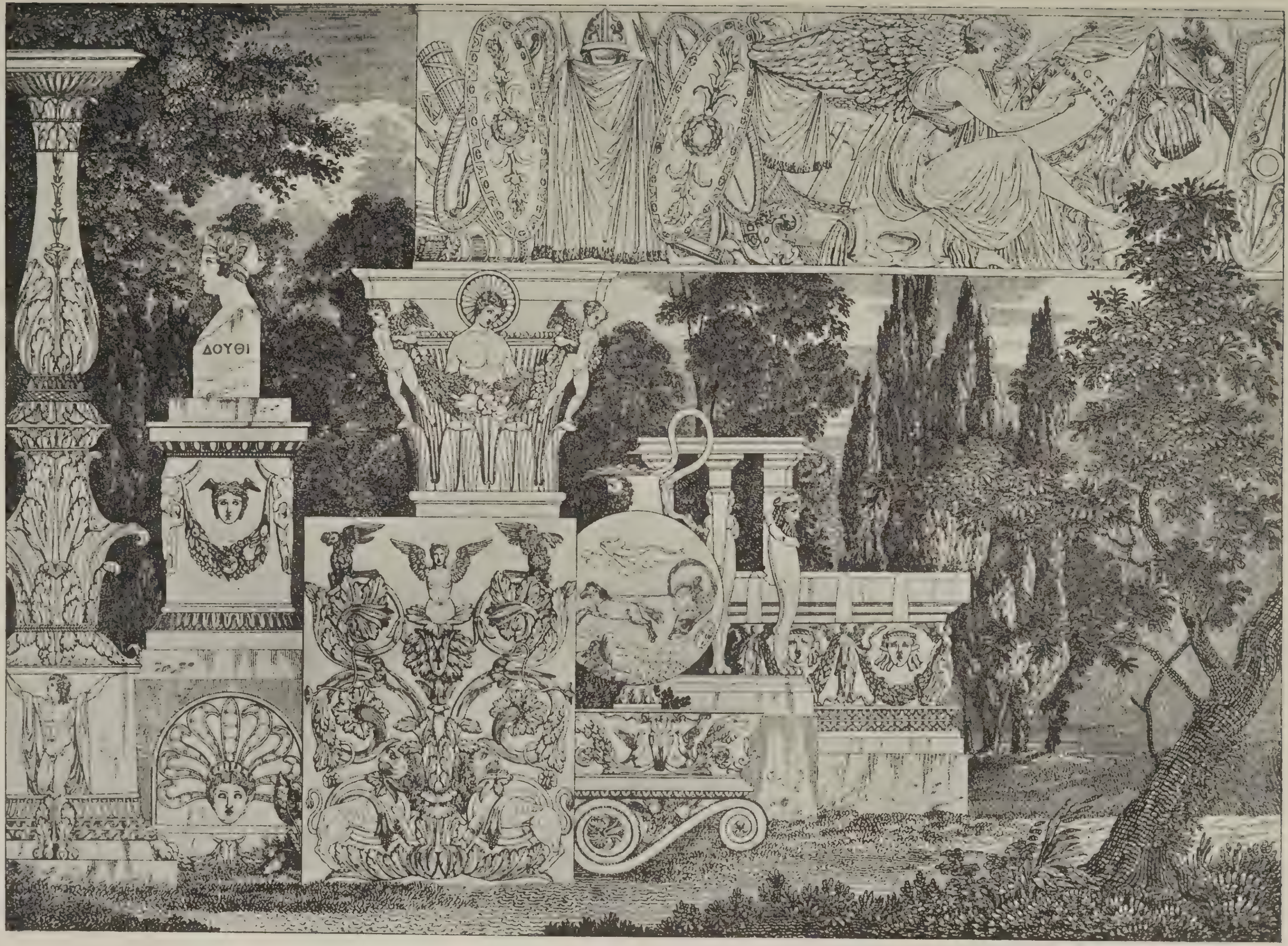
In this case Messrs. Hampton and Sons, Ltd., decorators, builders and electrical and sanitary engineers, of Pall Mall, claimed against Mr. G. A. Munroe and his wife, of Chessington Place, Chessington, near Surbiton, the balance of account, £7,000, for structural alterations, repairs, decorations and fittings of their house, Chessington Place.

Mr. Colam, K.C., appearing for the plaintiffs, said that the house belonged to Mrs. Munroe, and a question would arise as to whether the husband or the wife was liable, or whether they were jointly liable. Mrs. Munroe went to the plaintiffs' place in Pall Mall and said that she wanted a lot of work done at her house at Chessington. As a result of the interview estimates were prepared from time to time, altogether about eighty, and the gross amount of those estimates was something over £7,000. One of the conditions of the contracts was that the plaintiffs should be paid 80 per cent. of their charges as the work went on, but defendants had not complied with that condition, and as a result of the non-compliance plaintiffs did not do the whole of the work. They now claimed that they were entitled to the full amount of the estimates less the price of the work they had not done. The main defence was as to who should be the defendant. The husband was anxious to take it upon himself and say that he had ordered the things.

Then it was said that there was a contract for a lump sum, and that as plaintiffs had discharged themselves they could not charge anything. But there was in the contract a special note that 80 per cent. of the charges should be paid as the work proceeded, and there was another special note that the estimates were given subject to labour fluctuations. If those defences failed the question would resolve itself into a matter of details. Plaintiffs had received £1,000 on account, but promises made of further payments had been without result. Plaintiffs were entitled to charge the increase in the amount of wages paid, which came to £105. They also claimed £732 for extra work done and £132 for things which defendants would not allow plaintiffs' men to take away from the works—materials and appliances for the work. Plaintiffs further said they were entitled to loss of profit on the items commenced, but which they were not allowed to finish. The first estimate having been accepted on August 12, men were sent down to start the work, but it turned out that defendants had not proper legal possession, and the men had to be taken away. As a fact plaintiffs did not get defendants' order to do the work until February. As to who was liable, counsel said that the estimates were prepared for Mrs. Munroe, although her husband occasionally gave directions, and although discussions took place from time to time it was never suggested that Mrs. Munroe was not liable.

The hearing was adjourned for the Referee to take the evidence of an absent witness.

Architectural Details. 6.—Classical Composition by F. L. Scheult



In 1791, F. L. Scheult, the Nantes architect, explored the Campagna and made entrancing sketches of ruined villas, which were subsequently reproduced as engravings in his famous book "Recueil d'Architecture en Italie." He was careful to note detail as well as elevations, as we see in the above delightful collection of "motifs d'ornement,"

Heat Conservation and Wall Construction

IN a variable climate such as ours it is of great importance in building walls to aim at securing such conditions of temperature within the building as will not easily be affected by those which exist outside. Several considerations bear on the problem in a very direct manner, among these being the nature and disposition of the material employed and the thickness of the wall.

Broadly speaking, it may be laid down as an axiom that the thicker the wall the more complete is the insulation, and while it is true that the expedient of thick walls and also the adoption of hollow or cavity walls have tended to produce greatly improved results, it must be remembered that their efficacy is almost entirely dependent upon the insulating properties possessed by the materials of which they are built. And unless these are inherently capable of intercepting the passage of heat or cold through their mass, insulation which is to be of any value cannot reasonably be expected.

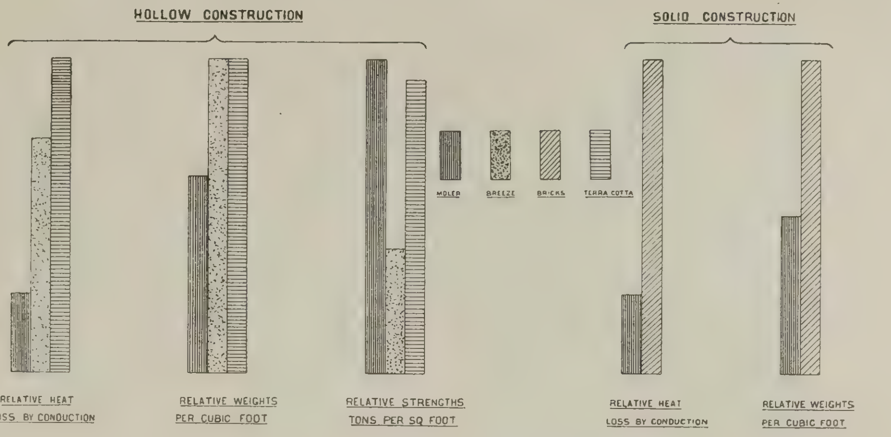


FIG. 3. HEAT, WEIGHT, AND STRENGTH. COMPARISON OF VARIOUS CONSTRUCTIONAL MATERIALS.

Increased attention is undoubtedly being given to this aspect of construction by scientific investigators, who realise the hygienic as well as the economic benefits which must necessarily result from the practical attainment of insulation in as nearly perfect a form as possible.

FIG. 1. DIATOMACEOUS EARTH, MAGNIFIED 72 DIAMETERS.

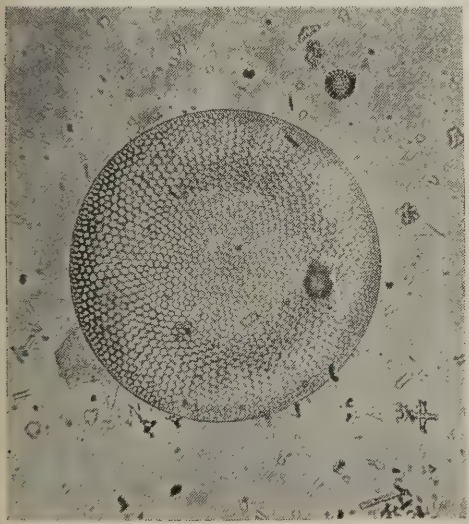


FIG. 2. A COMPLETE DIATOME, MAGNIFIED 157 DIAMETERS.

The hygienic advantages do not require to be emphasised, but as regards the economic value of properly insulated walls, few of us trouble to reflect how prodigious is the loss of heat from dwelling houses caused by neglecting to use non-ducting materials in their construction.

The employment of such materials thus becomes the crux of the whole matter, and it is in this direction that enquiry and experiment must be conducted if a practical solution is to be found.

Burnt bricks suitable for the inner lining of cavity walls (particularly those built of concrete) and hollow blocks for partitions as well as for the construction of floors, have recently been introduced, having very marked insulating properties. Incidentally they are highly fire and sound proof, weigh about half as much as ordinary bricks, and have in addition a wide application for the protection of steelwork from fire or corrosion.

They are manufactured from a material known as Moler, which is obtained from extensive stratified deposits lying on the north-east coast of the Island of Mors, Denmark.

These deposits are of marine origin, and consist of diatome silex naturally admixed with just sufficient clay to give it that plasticiy which enables it to be moulded into bricks.

It is when the raw material is subjected to microscopic examination that the reason for its insulating properties becomes apparent. This diatomaceous earth is at once seen to consist almost entirely of fossil remains of cellular structure, a physical characteristic which persists unimpaired during subsequent manufacture. The accompanying illustrations (Figs. 1 and 2) clearly show this inherent peculiarity, and the complete diatome represented in Fig. 2, infinitely minute though it actually is, may be described as a mass of permanently filled air cells. So true is this that a particular type of highly insulating brick made of this earth will float in water as readily as wood.

Mention may here be made of the interesting fact that the village folk living on the island have long been aware of the value of these deposits as a building material, and the humble dwellings which they have built of it are remarkable for equability of temperature at all seasons of the year.

The Danish Government in recent years commissioned its officials to make enquiries and prepare a report on the subject, with the result that the material was subsequently used on a large scale for State buildings.

Similar investigations have taken place in this country, and from the data thus obtained we are enabled to publish diagrams (see Fig. 3) which show in graphic form its non-conducting capacity, crushing strength, and weight, as compared with such standard building materials as terra-cotta, breeze concrete, and ordinary bricks. The illustrations have been prepared from the actual tests and reports of the National Physical Laboratories and Messrs. David Kirkaldy and Sons.

Since its introduction into England the Ministry of Health has satisfied itself as to the insulating properties of this material, and authorised its extensive use for numerous State-aided housing schemes, notably that of the Birmingham City Council. In the view (Fig. 4) of a row of cottages forming a part of this scheme will be seen a stack of hollow insulating blocks such as were used for internally lining the walls.

The Ministry, through its Standardisation and New Methods of Construction Committee, has quite recently approved of external walls being built of two thicknesses of Moler hollow bricks (each $2\frac{1}{2}$ in. thick), with a 2 in. cavity between, for one-storey buildings; or, alternatively, two thicknesses—each $3\frac{1}{2}$ in. thick—with a similar cavity, for two-storied buildings. These decisions constitute an important modification of its previous ruling forbidding $4\frac{1}{2}$ in. brick walls for single-storey buildings, on the express ground that ordinary burnt bricks possessed too high a thermal conductivity.

It is very generally known that the insulating coverings for preventing heat losses from boilers and steam pipes are mainly composed of fossil meal or "keiselguhr," which is very similar in its physical structure to Moler. The two materials, however, differ in one important respect, this being that, while fossil meal cannot be rendered plastic without an added in-

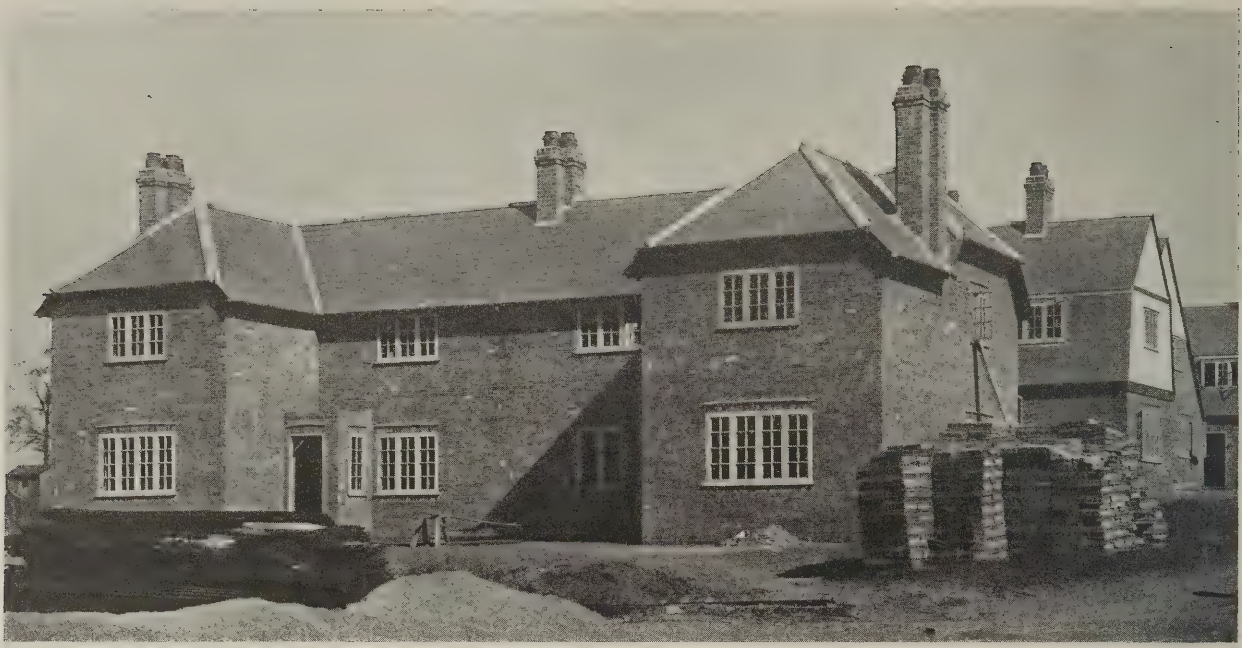


FIG. 4. BIRMINGHAM HOUSING SCHEME: A TYPICAL GROUP OF COTTAGES. COL. S. T. COX, D.S.O., HOUSING DIRECTOR, COL. W. J. TRAVERS, O.B.E., F.R.I.B.A., DEPUTY DIRECTOR.

gredient, Moler deposits are furnished by nature with a definite and sufficient proportion of binding material in the form of clay.

If, therefore, the low thermal conductivity of diatomaceous earths has proved of value in the field of mechanical engineering for the prevention of heat losses, there is no reason why their employment in the shape of bricks and slabs for building purposes should not produce similar results, provided they can be economically manufactured. While Moler bricks are principally used for insulating purposes, many architects employ them because of their light weight and resistance to fire.

In the latter connection the writer has seen the effect produced on part of a hollow Moler partition block by a flame (from an oil-fire blast furnace), which continued for three days and attained a temperature of over 1,200 deg. Centigrade. The wall thickness of the fragment measured ¾ in., and while the external surface had very naturally fluxed, the inner face showed no signs of injury, and had neither cracked, shrunk, nor discoloured.

F. CHATTERTON, F.R.I.B.A.

The Recasting of Carisbrooke Church Bells

At the recent recasting of the bells of Carisbrooke Church, which took place in the foundry of Messrs. Gillett and Johnson, at Croydon, H.R.H. the Princess Beatrice—who holds office as Governor of the Isle of Wight—was present throughout the proceedings and evinced great interest in them.

Of the eight bells which comprise the Carisbrooke ring, the tenor weighs 1 ton and the remaining seven 2¾ tons. They will eventually hang on the rigid "all-steel" frame which with its new fittings, was standing in the works assembled and complete. The frame is of registered design, has four 18 in. by 6 in. main girders of rolled steel, and it is claimed for it that there is no vibration. Friction during ringing is greatly reduced by swinging the bells on ball-bearings.

The Royal visitor was entertained to an exhibition of bell-ringing on the peal of Rochester Cathedral. This consists of ten, eight having been recast and tuned on the five-tone Simpson principle, and the two treble bells being new. Mr. C. F. Johnson, who conducted the ringing with great skill, gave a selection of well-known airs which charmed everyone. The bells were inverted and stood in two rows on the floor, and among the ten ringers was Miss Johnson, sister of the proprietor.

Another recent commission which came under the notice of Her Royal Highness in walking round the firm's extensive premises was a recast ring of six bells for Westham Church, Pevensey, the tenor weighing 10 cwt. 1 qr. This peal was shown hung in its new steel frame, which was designed on the same principles as the Carisbrooke frame.

There were also on view a chime of nine bells, with piano clavier, for Broughty Ferry Church, near Dundee; a chime of five bells (the hour bell one ton) for Messrs. Macdonald's Tobacco Factory, Montreal; a tower clock for Funchal Cathedral, Madeira; and new designs in grandfather and house clocks.

After the inspection of the works had taken place, and the Mayor of Croydon had thanked Her Royal Highness for visiting the borough, Mr. C. F. Johnson, in seconding, mentioned that the presence of Princess Beatrice on an occasion such as this was without precedent in the bell world. The speaker said he was unaware of any member of the Royal family having ever witnessed the casting of the greater part of a peal of bells, and this happy departure from precedent was the more fitting because the Princess was the Governor of the Isle of Wight.

Reference was also made by Mr. Johnson to the keen interest and pride which the Royal visit to the foundry would arouse among the ringers of England, who before the war numbered some 40,000.

It may be mentioned that a memento of the occasion will later be presented to H.R.H. Princess Beatrice, in the shape of a model bell, cast in her presence from the same metal as that used for the Carisbrooke bells.

The Proposed New Hotel at York

Although the proposal to erect a new hotel on the South Bank Estate, York, has been abandoned owing to the decision of the justices to refuse the application for a license for this district, the plans are of particular interest owing to the similarity of the problem presented to those of the recent competitions. The design, as regards planning, construction, and architectural treatment, has been worked out in the simplest and most straightforward manner, without striving after effect, the aim in view being to provide at the least possible expense a thoroughly up-to-date house, suitable for the needs of the district, and convenient alike for the tenant or manager and the customers.

Separate accommodation is provided for two classes of customers, each with its own lavatories. The whole of the public portion of the premises and all the entrances are under direct supervision from the service bar, where, if need be, one barman can serve every department, with the minimum of running about. The sale of refreshments and non-intoxicants during prohibited hours is provided for in the rooms set apart for better class customers and served by the main entrance, it being only necessary to lock the bar store and one other door to render this possible.

The large dining-room was provided for club purposes, or to be let off for meetings, the service accommodation being arranged with a view to quick and easy working. The tearoom would be used as a cloakroom on special occasions. Two rooms available for letting are provided on the first floor in addition to the tenant's private rooms.

It was intended to carry out the external elevations in local red hand-made bricks, with stone dressings sparingly used, and pantiled roofs, the interior being treated in the simplest and most economical manner. It will be recalled that the competitions referred to were illustrated in these pages.

The Week's News

R.I.B.A. President's Portrait.

A portrait of Mr. John W. Simpson, P.R.I.B.A., is being painted by Sir Arthur S. Cope, R.A., hon. A.R.I.B.A.

Bath Housing Scheme.

It has been decided to invite tenders for the erection of further houses, all of parlour type.

Lynn Housing Scheme.

The T.C. has decided to erect ninety-two houses on the Chase Estate and to invite tenders for the work.

Shrewsbury Housing.

The Ministry of Health has sanctioned the erection of fifty houses, and the Town Council has decided to proceed with the work.

Cardiff Housing.

The Housing Committee has decided to advertise for tenders for blocks of ten semi-detached houses in connection with the local housing scheme.

Morpeth Housing.

The T.C. has purchased land at Thorp Estate for housing sites, and the architect has been instructed to prepare plans and specifications.

Friern Barnet Houses.

The R.D.C. has decided to accept the recommendation of the Housing Committee and to proceed with the erection of 286 houses as a part of the local housing scheme.

Gosforth Housing Scheme.

One hundred and forty-six houses are to be built on an area of fourteen acres, and a start is being made with the first twenty-eight. Tenders for a further twenty two are to be invited.

The Late Mr. J. H. Phillips.

The death has taken place suddenly at Gwylfa, St. Martin's Road, Caerphilly, of Mr. John Henry Phillips, a well-known figure in the district. Mr. Phillips, who was an architect by profession, had been ailing for some time. He was a little over sixty years of age.

Bradford's Municipal Theatre.

It is proposed to build a municipal theatre on an island site in the heart of Bradford, almost adjoining the Town Hall. It is suggested that the theatre should replace New Inn, a famous coaching house of bygone days.

Gift to Manchester University.

Mr. Samuel Smethurst, of Royton, has given to the University, through the Manchester Institute of Builders, £120 to provide a travelling scholarship in architecture for the present session. A fund is at present being raised by the Institute of Builders to endow a travelling scholarship of a similar amount.

Old London Bridge.

A very interesting relic of old London has just come to light—namely, an arch of old London Bridge, which was demolished during the construction of new London Bridge, the first stone of which was laid in 1825. The arch now discovered is the second from the north side of the old bridge, and is close to St. Magnus Church. It was disclosed during some building operations now in progress. The first stone bridge over the Thames was built in 1176, but the bridge was constantly repaired and restored, so that there is no evidence of the exact date of this particular arch. It is apparently mediæval, and is built of Reigate stone with a very flat trajectory.

L.C.C. and Strand Tenants.

The proposed widening of the Strand between Wellington Street and the Savoy Hotel is being held up by a few tenants, with whom the L.C.C. have failed to come to terms. The L.C.C. have powers under which they can compulsorily turn out the tenants, but there is considerable opposition to putting them into force.

Norwich Cathedral War Memorial.

The Society for the Protection of Ancient Buildings is attacking the Dean and Chapter of Norwich—and through them all other misguided deans and chapters—over the proposal to build a neo-Norman chapel as a war memorial and to take the place of Norman work which has long since disappeared from the body of the cathedral.

Lancaster Housing.

The foundation stone has been laid of the Lancaster Corporation housing scheme. The housing site is at Scotforth, and the original estimate as to the town's requirements was 600 houses. A start has now been made upon the erection of fifty, which will cost an average of £960, to be erected by the Master Builders' Association at cost price, plus a percentage.

Newark War Memorial.

The memorial cross to the 387 men to Newark-on-Trent who fell in the Great War has been unveiled by the Duke of Portland in the presence of a large gathering. Designed by Sir Reginald Blomfield, the cross (costing about £800) stands 22 ft. high, and is made of Portland stone built on a foundation of concrete. It contains the following inscription: "In glorious and honoured memory of the men of Newark who fell in the Great War, 1914-1918."

Birmingham Housing Programme.

Seventeen hundred municipal houses have now been commenced in Birmingham. The Housing Committee have decided to advertise for tenders for fifty-two houses on the Farcroft Estate, Handsworth; twenty-two at Northlands Road, King's Heath; twenty-five at Mossfield Road, King's Heath; ten at Palace Road, Bordesley Green; twenty-eight at Uplands Road and Avenue Road, Handsworth; twenty-four at Holly Lane, Erdington; and sixteen at Shortheath Road, Erdington.

Opening for Ex-Service Men.

Instructions have now been received by the employment exchanges to put into immediate operation the Government scheme for the employment of ex-Service men in the building industry under the training scheme. Fifty thousand men can be absorbed in the industry. The National Federation of Building Employers have agreed to work the scheme. It is possible that the trade unions will shortly join the district committees for selecting and placing the men.

Scalby's War Memorial.

The memorial, which has been recently unveiled, cost about £400, and takes the form of a slender cross 15 ft. high, surmounted by an aureole, with a raised sword on the face of the cross, standing on a hexagonal plinth, on which are engraved the names of the fallen. The work has been executed by Mr. F. Dove, sculptor, Scarborough, and the monument was designed by Mr. H. L. North, B.A., F.R.I.B.A.

Housing at Milngavie.

The T.C. has decided to proceed by direct labour with the construction of roads and sewers in connection with Section II. of their housing scheme. The work will be carried out under the supervision of Mr. Frank A. B. Preston, F.S.A. (Scot.), master of works and borough surveyor. The estimated cost of sewers amounts to £1,484 and of roads (exclusive of tar macadam) to £3,010. An immediate commencement will be made with the construction of sewers. The number of houses comprising Section II. is fifty-eight, the construction of which will be contracted for.

Professional Announcements.

The King, on the recommendation of the Home Secretary, has appointed Mr. Digby L. Solomon, A.R.I.B.A., to be an additional member of the Royal Commission on Fire Prevention and Fire Brigade Organisation. Mr. W. R. Davidge, A.R.I.B.A., hon. secretary of the R.I.B.A. Town Planning Committee, who has been on a mission to India to advise the Government on the town planning and development of Bombay, has returned to England, after an absence of four months. Mr. Davidge has resigned his official appointments in London and has removed his offices to 27 Abingdon Street, Westminster, where he is taking up consulting work. Mr. F. Milton Cashmore, A.R.I.B.A., has removed to 15 Waterloo Place, Pall Mall, S.W.1. (Tel., Gerrard 1293).

Success of Training Grants Scheme.

The Government Training Grants Scheme for ex-officers and men of similar educational qualifications has undoubtedly proved of great value. Statistical information, compiled by the Appointments Department of the Ministry of Labour, of recent successes of ex-Service candidates trained under the auspices of that Department, shows that the candidates form a very considerable proportion of the number who actually passed. In the last three final examinations of the Institute of Chartered Accountants (England and Wales), 298 ex-Service men in receipt of grants under the Appointments Department passed, and of these quite a number gained gold medals or certificates of merit, while in the last four final examinations of the Chartered Accountants (Scotland), 140 of those in receipt of grants were successful, ten of these gaining distinctions. Thirty-three passed the final examination of the Society of Incorporated Accountants in November, 1920, two of the candidates gaining second and third place. Nine have passed examinations of the Royal Institute of British Architects, and twenty-one the Institution of the Civil Engineers (Associateship). Since 1919 395 ex-Service candidates in receipt of grants have passed the Law Society's examination (England and Wales), and several of these have gained high places and distinctions, including first (three times), third, fourth, fifth, sixth, seventh, and eighth places; sixteen prizes, ten first-class distinctions, and nineteen second-class distinctions.

Trade and Craft

Change of Address.

The Helical Bar and Engineering Co. have moved to more convenient offices at 72 Victoria Street, S.W.1, to which address all communications should now be forwarded. The telephone numbers and telegraphic address of the firm remain unaltered, viz., Telegrams: Helistelba.Vic. London. Telephone: Victoria 1940-1941.

British Portland Cement.

The accounts for 1920 show that the revenue for the year, after providing for taxation, amounted to £558,839. From this have been deducted directors' and trustees' fees, £4,205, Debenture stock interest £57,940, and for Debenture stock redemption £18,287; and the directors have placed to general depreciation reserve £150,000 and to barge and rolling-stock depreciation £5,000, leaving a balance of £323,407, which, with £136,264 brought in, makes £459,671. A final dividend on the Ordinary shares of 7½ per cent., less tax (making 15 per cent. for the year), is recommended, leaving £181,478 to be carried forward. Owing to the fact that arrears of repairs had been overtaken to a considerable extent, production steadily improved during the year.

Satinette Enamel.

Messrs. Pinchin, Johnson and Co., Ltd., varnish, colour, paint and enamel manufacturers, have just issued a new brochure descriptive of "Satinette Enamel." This book has been specially written to inform architects, property owners, and decorators as to the place Satinette occupies in the scheme of things decorative, reasons why it should be specified and used, hints on its actual use, the conditions under which best results can be expected, and also a number of other useful specifications for securing the finest finish on all usual classes of surface. Then there are many illustrations of important work that has been recently accomplished with Satinette enamel. Copies may be obtained on application to the company at General Buildings, Aldwych, London, W.C.2.

Bell's United Asbestos Company, Ltd.

The directors of Messrs. Bell's United Asbestos Company, Ltd., have resolved, in view of the audited accounts to December 31, 1920, and after providing for excess profits duty and corporation tax, to recommend to the shareholders at the general meeting, to be held on May 12, the payment of a balance dividend of 1s. 6d. per share on the Ordinary shares of the company. This, with the interim dividend paid in October last, makes a total distribution of 12½ per cent. for the year. The amount to be placed to reserve is £20,000, and £34,124 1s. 1d. is to be carried forward.

Paints, etc., at Building Exhibition.

We have received the following communication from Messrs. Aspinall's Enamel, Ltd., of New Cross, London, S.E.14: "We were interested in Mr. Seymour Jennings' remarks on practical work in his article in your issue of April 20, on 'Paints, Colours, and Varnishes,' as shown at the Building Exhibition. We have endeavoured both last year and this to make our exhibit one that would appeal to the decorator as a practical proposition, and we are glad to have our policy confirmed by an acknowledged authority on painting in all its phases. Knowing the difficulty of showing reasonably good results when painting in the dusty atmosphere of Olympia amid the turmoil of preparation for the exhibition, the temptation to show work prepared elsewhere was very strong, but we resisted it, and we have had ample justification for our decision in the many appreciations we have received from builders and decorators on the result. It may interest your readers to know that the whole of the painting on our stand (composed of fibrous plaster, wood, and fireproofed beaver board) was carried out by two men between midday on Thursday, April 7, and the opening of the exhibition at midday on Tuesday, April 12, the only work preliminary to this being a priming coat applied to the sections before removal to Olympia."

Percy C. Webb's Staff Dinner.

The annual staff dinner of Messrs. Percy C. Webb, Ltd., marble and granite merchants, has been held at the Villa Villa Restaurant in Gerrard Street, W. About thirty guests were present, including representatives of the firm's various interests in this country and in Italy.

The chair was occupied by the managing director, Mr. Percy C. Webb, who was supported by Mr. John Bradford, a co-director, and by the managers of the different departments. At the close of the dinner, and after the loyal toast had been responded to, Mr. Bradford proposed the health of the managing director. The speaker remarked that he had known Mr. Percy Webb for many years, and "the longer he knew him the better he knew him." The firm had made great progress since its inception, and its success was mainly due to the untiring efforts of its chief.

In responding to the toast, Mr. Webb referred to the success of the last two years' trading, and said that a great part of his satisfaction in that success had been in the opportunity it gave for permitting the staff to share in the prosperity. If there was a continuance of that prosperity, he undertook to see that all in the concern benefited thereby. The speaker concluded with a reference to the loyalty and enthusiasm of the staff. He had never, he said, been surrounded by a more wholehearted and loyal staff.

A very pleasant evening was brought to a close with a musical entertainment, to which several of the guests contributed.

Steel Construction.

Messrs. Frederick Braby and Company, Ltd., have sent us advance copies of three of their new publications—a handbook for architects and engineers, and booklets dealing respectively with the company's steel window sash, and steel buildings and structures. All of these publications are profusely illustrated, and should be of the greatest interest and assistance to anyone having dealings with any branch of the iron, steel, and other metal industries. The company is prepared to undertake the construction and erection of steel structures and sheds of every description, and their other steel products include sheets and plates, casements, rooflights, storage bins, tanks, barrows and drums, ridges, etc. The company are contractors to H.M. Government and Foreign Railways, and are on the lists of the War Office, Admiralty, India Office, and Colonial Office. Copies of the publications may be obtained on application to the head office and works of the company, Petershill Road, Glasgow. The handbook is especially useful, and may be carried in the pocket. Besides containing a great deal of valuable information with regard to the specialities of the company, there is much data and memoranda of a more general character.

Latest List of New Inventions

Latest Patent Applications.

10781.—Brant, H. W.—Building materials. April 13.
10972.—Coates, J.—Walls. April 15.
10722.—Cobbe, G. W.—Method of forming floors, platforms, etc. April 12.
11040.—Williams, F. E.—Means for securing woodwork to ironwork for floor formation, etc. April 15.
11097.—Woodfine, W. J.—Paving-blocks. April 16.

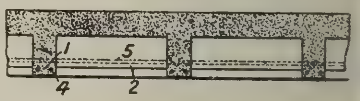
Specifications Published.

161286.—Ollendorff, H.—Walls, roofs, and other structures.
161382.—Browne, A.—Wall coverings.

Abstracts Published.

158703.—Reinforced concrete floors.—Jackson, W. J. Mellersh, 25 Southampton Buildings, London (Uni-Form Co., 1444 Little Building, Boston, U.S.A.).

The flooring is constructed without beams or girders but with longitudinal and transverse ribs, 1, 2 respectively on the underside in which the reinforcements 4, 5, are embedded. In the case of an oblong floor, the longitudinal ribs 1 are deeper than the transverse ribs 2. The depths of the longitudinal and transverse ribs and consequently the distances between the respective rods and the neutral plane of the floor are designed with regard to the respective spans. The flooring is supported on columns which may or may not be provided with panels on the top. A ceiling may be attached to the longitudinal ribs, thereby leaving spaces between it and the transverse ribs in which pipes or conduits may be placed. The flooring may be cast by means of removable forms described in Specification 123696. Specification 158397 also is referred to.



The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2. from whom readers of this Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner and Co. will obtain printed copies of published specifications and forward on post free for the sum of 1s. each.

Weekly Housing Report

During the week ended April 22 the grant to private builders was paid in respect of 362 houses. To date 12,691 of these houses have been completed. Certificate A, authorising the building of houses under the terms of the grant, have been issued in respect of 30,776 houses. During the week tenders were submitted for 1,045 houses. Tenders for 286 were approved, bringing the total number of houses in tenders submitted to 191,175, and in tenders approved to 176,793.

Wednesday, May 11, 1921

Volume LIII. No. 1375

THE ARCHITECTS' JOURNAL & Architectural Engineer

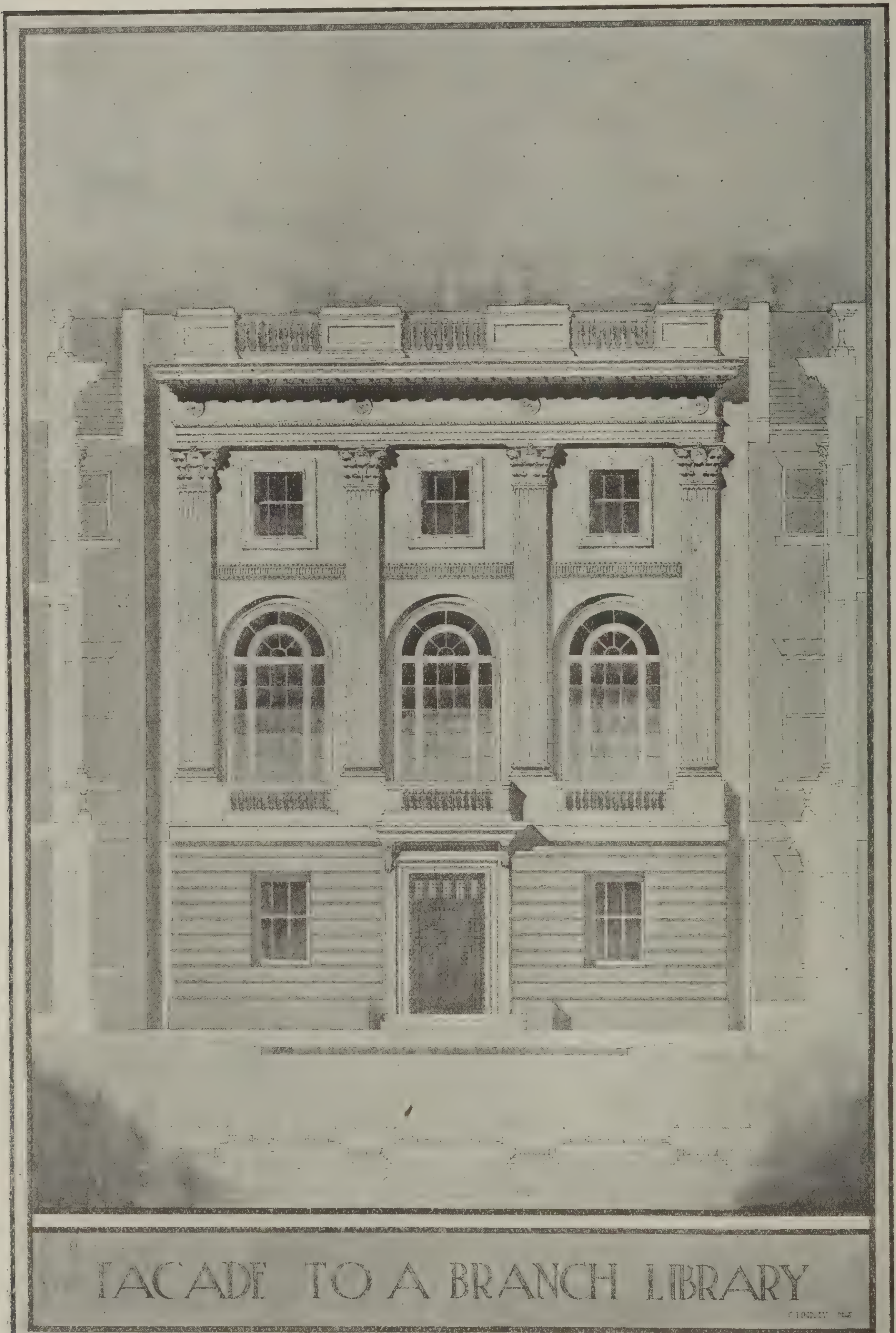
With which is incorporated "The Builders' Journal"

An eminent French painter, born in Paris, 1636, educated under François Chauveau and afterwards under Charles Le Brun. After studying in Rome and Venice, he returned to Paris one of the most accomplished painters of the French school, and was immediately taken into the service of Louis XIV. He was received into the Academy in 1673. He visited England in 1689, and again in 1690, when he remained upwards of two years, during which time he was employed in decorating the mansion of the Duke of Montagu, and afterwards the British Museum. His principal work at Paris is the fresco in the dome of the Invalides. He died in Paris in 1716.

27-29 Tothill Street, Westminster, S.W.1.

Architectural Designs. 11.—Façade to a Branch Library

By C. Lindley (Liverpool University School of Architecture)



The above design is a characteristic example of the scholarly type of work produced under the direction of Professor C. H. Reilly and his able staff at the Liverpool University School of Architecture. Some brief notes on the work of the school are given on page 582.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, May 11, 1921 Volume LIII. No. 1375

Unity and Registration

At length comes the welcome report that the special committee on Unity and Registration has been able to agree upon a draft report, which will be submitted to a meeting of the general body on May 12.

If nothing much had been heard of late of Unity and Registration, that was because there had been sufficient reasons for reticence. In the first place, the process of incubation should not be unduly disturbed. Then mischief might easily be done by prematurely reporting progress; and, lastly, it is not easy to evade weariness in the repetition of such simple arguments as that two and two make four when they are not arranged to make two-and-twenty. All that can be urged in favour of Statutory Registration has been stated copiously and eloquently; and as the opposition (if there is any) has hitherto remained entirely dumb there are no arguments to answer. Hence the unruffled calm. An occasional brief reminder that the subject had been by no means forgotten was all that for the moment was necessary to keep it well within focus.

Now we have that announcement of the most important of all the May meetings, and opportunely we get in "The Journal of the Society of Architects" for May reproduction of an important portion of the admirable address delivered some time ago by Mr. John Wilmot on his installation as President of the Surveyors' Institution. On three specific grounds the Registration references in the address were well worth recalling: It restates the argument very clearly and forcibly, it is particularly valuable as showing a fresh point of view, and it enlarges considerably the scope of the principle involved by suggesting its application to all the professions. Mr. Wilmot's argument is very broadly based: "To my mind," he said, "it is both illogical and opposed to the public interest that any person, irrespective of his qualifications, who can afford the rent of an office and the cost of a brass plate, should be permitted to make use of a designation which would lead the ordinary man in the street to suppose that he possessed the experience and attainments necessary to advise upon matters calling for a large amount of technical knowledge and training, and not infrequently involving very considerable responsibility." Mr. Wilmot would have the public protected from the unqualified architect, engineer, and surveyor, even as it is safeguarded from the quack doctor and the uncertificated lawyer. It strengthens the argument rather considerably to introduce the lawyer. To make up a triad, the parson might appropriately have been brought upon the scene. An unlicensed parson would make havoc in the marriage market.

These professions are all, in their several ways, compelled by the State to register. Does the architect also rank for Registration? Now, let us not blink the selfish human element in this business of Registration. It were highly dangerous to ignore it. To any one who is tolerably well acquainted with "the average natural man," it will seem either grossly insincere or pathetically ignorant to insist that the demand for Registration is based on none but the loftiest motives of philanthropy, on the unsophisticated desire for social welfare, on the purely Platonic wish for the greatest good of the greatest number, and so forth. With the doctor, the lawyer, and the parson, solicitude for the common welfare would be found, on analysis, to reveal at least a chemical trace of the instinct of self-regard. To pretend that the public weal is the sole concern were to flaunt the old-fashioned doctrine of Perfectionism in the winking-eyed face of a world grown sceptical and cynical.

Fortunately there is no need to set up a claim of altruism absolute and unadulterated, or of Perfectionism unsmirched. It is sufficient to barb and feather the wooden shaft of self-interest with a due detail of public polity. Thus shall the arrow speed on its true trajectory and hit the mark.

There is always the question of equity. It is not right or fair that one man should be allowed to snatch from another the fruits of arduous and expensive labour; and this is the twofold "tort" that in effect occurs and flourishes with impunity, where the untrained, or the irregularly and inexpensively trained, "architect" falsely so called, assumes that honourable title to impose as it were a spurious article under a false description upon an ignorant public, and in that act to deprive the genuine architect of some of the work for which he has qualified—laboriously and at considerable charges. It seems only fair that the State should protect him as it protects the other qualified practitioners. That side of the case should be frankly stated when in due course the matter comes before Parliament. It is better that the promoters of the Bill should meet objections in advance rather than wait to have them introduced by interested antagonists. To anticipate an opponent's contention is to deprive it of more than half its force, perhaps to destroy it altogether; and to admit freely that there is certainly an element of self-interest in the Registration Bill will serve to prevent the magnification, distortion, and lurid false colouring which that element would suffer at the hands of the antagonist who could pretend that it was the only real motive, and had therefore been cunningly kept out of sight until a righteous opposition exposed the flagrant hypocrisy.

There is no hypocrisy about Registration. It is frankly intended, in the first place, to protect an honourable profession from unfair competition, to secure it the greater respect (and self-respect), the greater confidence (and self-confidence), that follow inevitably upon State sanction, and thereby to steady its aims, to raise its tone, and to heighten its standards. State recognition has done all these things for Medicine, the Law, and the Church—has given to each the inestimable boon of status—and there can be no doubt that the same beneficent effects would follow upon a similar act of equity to the Profession of Architecture.

But, as we have said, the plain blunt shaft can be winged and barbed. In other words, protection for the Architect can be justified by proving that it is also protection for the community. That rather hopeless person

"John Citizen" can then build with full assurance that all his interests will be properly protected—pecuniary, æsthetic, hygienic, what you will. It is necessary to convince the public that they are going to get something out of this—as without question they certainly are—or the public's representatives will not dare to vote for the Bill. It is therefore supremely worth while to make friends with the public, to get them to see that the cause is just and commendable, and is by no means "sicklied o'er" with sordid self-interest. It is necessary to convince the public that by accepting the Bill it will be kind to itself as well as to the architect.

Architects scorn the narrow-minded meanness that sordid suspicion would impute to them. Theirs, like that of Doctor, Lawyer, Parson, is a liberal profession. Architects, as a body, are honestly striving, collectively and severally, to promote the public good, while at the same time promoting to some infinitesimal degree, and by no means in an entirely selfish sense, the welfare of their own order. They are not seeking to aggrandise themselves after the manner of vulgar monopolists; but, under State sanctions, they would acquire a new status and with it a new feeling of responsibility, a stronger determination to merit the trust reposed in them as a class duly qualified and set apart for the work which they are at present forced to share with shoals of unaccredited men of varying degrees of competency or incompetency.

Architecture and the Press

Ordinarily, the centenary of a newspaper would not call for notice here. A quite exceptional case is that of the "Manchester Guardian," which is honourably distinguished in several ways from most of its contemporaries. No newspaper in the kingdom is better edited, better written, or more impartial. For us, however, the chief point to note is the regular and skilful attention it gives to art and letters, by no means excluding the "Cinderella of the Arts." We very cordially congratulate its editor on the breadth of outlook that has brought and has consistently kept such topics within its scope, and on the judicious and accurate treatment that they have almost invariably received in the "Manchester Guardian." More than any other newspaper with which we are acquainted—always excepting the "Observer"—the "Manchester Guardian" has treated architecture as a subject in which the public is, or ought to be, keenly and constantly interested.

Museum Design

As noted below, in the paragraph headed "The Antiquary and the Art Movement," the title of the address in which Sir Hercules Read referred to that movement was "Museums in the Present and Future." On this theme Sir Hercules held firm and positive opinions with which most architects will be in complete agreement. He opposed, rather superfluously, the worse than ridiculous dogma of "sundry of our recent newspaper critics" that "there must be no more museums," which is as arrogant as the dictum that there must be no more coals. When he observed that "he knew of no instance in the last century where anything like deliberate consultation had taken place between the architect charged with the construction of the building and the officers of the museum whose business it was to utilise it," on whom did he intend to cast the blame?—on the architects, the officials, or the building owners? Certainly, the architect would prefer deliberate consultation with the officials to their interference during progress or their carping criticisms afterwards; but everything turns on exactly what meaning is to be attached to the expression "deliberate consultation." Sir Hercules may rest assured that in designing such a building as a museum the architect always takes the utmost pains to ascertain exactly the requirements of the experienced administrators. In mentioning the Victoria and Albert Museum, he might have noted its planning as a fairly favourable instance of consultation between architect and museum officials, at home and abroad. These buildings, however, are hardly a case in point within the speaker's limitation of time; for though the foundation-stone was laid by Queen Victoria on May 17, 1899, the building was not finished until June 26, 1909. Sir Hercules cited the National Museum of Wales, still in process of construction, as "a notable exception to the practice of the preceding century"—the bad practice, we are led to infer, of the architect and the museum officials ignoring each other—but it is not imaginable that any architect of to-day would in any instance be so foolish as to deny himself the advantage of consulting the experts—medical, scholastic, archæological, ecclesiastical, or what not—on purely technical points. He regards it as a point of professional honour and conscience to assimilate all the available data, even as a barrister feels bound to master his brief.

Working Builders' "Secret Circular"

Too much has been made of an alleged "secret circular" of the building unions. It is thought to presage trouble with the employers, but with tact and good temper on both sides there need be no outbreak of hostilities. The circular merely forbids unionists to assist in the training of dilutees, and to report the introduction of dilutees into any workshop or on to any job. This attitude certainly creates difficulties but it is no more than was to be expected of the unions, who had refused in unmistakable terms to lend any kind of assistance to the Ministry of Labour in its benevolent effort to find work in the building trades for some fifty thousand unemployed ex-Service men. Having fully committed themselves to this decidedly unpopular course, it was only to be expected that they would throw the handle after the head. Their "secret circular" is merely supplementary to their unpatriotic decision on the main issue. But why they should try to keep the document secret is best known to themselves. It is a pity that the newspapers have made so great a fuss over so trivial a matter. That is a way to throw oil on the fire; and just now the country cannot afford another big blaze. It is reassuring to find that the building operatives have adopted a more reasonable attitude towards employers. Last week the craftsmen and labourers agreed to accept, as from May 16, a reduction of 2d. an hour, while labourers are to be reduced another 1d. an hour on July 1.

The Antiquary and the Art Movement

Sir Hercules Read, President of the Society of Antiquaries, addressing the anniversary meeting of that Society, commented freely on "The Times" discussion on "Art in Common Life," although the title of his address was "Museums in the Present and Future." He did not think that by setting up in this country a Ministry of Fine Arts we should do much good. His experience of the working of the French system did not encourage that hope. He thinks—and undoubtedly many think with him—that "until the heart and the intelligence of the people at large can be reached in such matters, until they attain to the stage of realising the great material advantage to them and their children of an understanding of the value of art in daily life, there is but little hope of any general progress in refinement." Sir Hercules, who seemed rather disposed to throw cold water on the whole movement, challenged the proposal to call a meeting of representative men, asking "Who is to decide what men are representative, and what they are to represent?" This is mere reaction. The President's questions would have applied with equal force (or feebleness) to the starting of the Society of Antiquaries. Such questions merely obstruct and discourage. Let us get on with the movement.

Period Design and Period Furniture

ONCE upon a time an architect was shown over a house by his friend, the proud and pleased proprietor. It was a Late Victorian house of pure and characteristic type. But, not satisfied with this, the owner instructed a firm of furnishers and decorators to do their direst with a portion of the ground floor, and in course of time the front parlour and entrance emerged triumphantly as a pseudo-Elizabethan hall, thoroughly half-timbered and otherwise bedevilled.

The owner then turned his attention to the dining-room, and, having become tired with his anæmic filibustering among the Elizabethans, gave orders for another firm to produce, as right worthily as was in their power, an eighteenth-century room, and the architect was bound to admit they had undoubtedly caught the trick of Late Georgian.

Having adjourned to the billiard-room, as yet untouched by anyone having a "period" obsession, the owner hinted tentatively that something would have to be done with his billiard-room to rob it of its Victorian virginity. The possibility occurred to the architect that by tact or gumption, or whatever is the architect's equivalent to the doctor's bedside manner, he might be asked to design an Empire billiard-room, or something of that sort.

But as the conversation developed, the architect seemed to detect a slight hesitancy in the owner's manner, probably due to certain unguarded criticisms he had dropped while passing through the Elizabethan hall. The owner evidently thought that his heart was not in the right place, in that the architect was inclined to regard "period" designing in the nature of a questionable stunt rather than a serious matter for artists and architects.

Now this architect was a superior person—as is often the case—and not without reason, for, besides being thoroughly assured that we are suffering from the effect of that worst of all centuries—the nineteenth—he was rash enough to think that he had evolved a more or less watertight scheme of æsthetics; at any rate, he had perfectly clear and emphatic views as to "period design" and "period furniture."

Certainly the opportunity should not be missed to an architect who had already been overlooked upon two occasions; it was his duty to help his friend to a right understanding: "*Monere et moneri, proprium est veræ amicitiæ.*"

Therefore, it was not long before he found himself seated upon the billiard-table declaiming a portion of his scheme of æsthetics before an astonished and suspicious owner somewhat as follows: "The Sheraton sideboard in your dining-room—which I am pleased to see is a genuine piece of furniture—is the physical expression of the mind of an eighteenth-century craftsman bred into a tradition controlled by an aristocracy; within the framework of that piece of mahogany are embedded the attainments and aspirations of a civilisation. Being not only the owner of this house, but also, I trust, a Christian gentleman, you undoubtedly believe that things of the spirit are more important than anything else. You must therefore agree with me that your sideboard is more truly to be conceived of as an attitude of mind rather than as a piece of furniture.

"Now, attitude of mind suffers a continual process of change; values once deemed essential are discarded a century later; the mental perception of certain facets of reality keenly apprehended at one period become blunted or even lost during this process of change, and other facets of reality rise to consciousness and take their place as values.

"From the above assumptions, which, I think, are reasonably valid, it follows that the sole instrument capable of producing a Sheraton sideboard is the late eighteenth-century English mind bred under an aristocratic tradition. The early twentieth-century mind—considered as an instrument—has been produced under a bastard democracy, having no particular craft tradition, and when functioning naturally must produce something different.

"Of course," continued the architect, "one must admit that it is possible for men of the present day so to steep their minds in the spirit and sense of values of the late eighteenth century that they are able to reproduce presentable imitations of a Sheraton sideboard. Your dining-room chairs, which you say were bought in an antique shop in Chelsea, and were probably made quite recently in the neighbourhood of Curtain Road, are evidences of this.

"Perhaps Pugin is the most notable example of this type of mind. He belonged more to the fifteenth century than to the nineteenth, achieving immorality as well as fame by evading the reality of his time.

"His wonderful architecture is, in reality, an architecture of escape; and herein lies the crux of the whole business, for it is questionable whether anything can be conceived of as being more immoral than of set purpose to live a life out of sympathy with present reality, bilking its issues and denying its possibilities; it is a kind of betrayal none the less serious because it is commonplace.

"To be perfectly sincere," said the architect, "I must admit that most of us are tarred with the same brush, but, not having the whole-hearted genius of Pugin, we find it difficult to live completely outside our twentieth-century minds; consequently, our 'periodicity' is as tasteless as fruit out of season. Unlike Pugin, our immorality is tempered by our incapacity, and, incidentally, that is why we are so dull.

"Even if you think that this attitude is extreme and ultra-moral, why should not we, as architects, find our pleasure in expressing ourselves in the language of our times?

"We can pardon a few poets and novelists using the language of Chaucer or Milton as a means of occasional expression, but if all the authors of our period affected this fashion we should have no patience with them; yet this was practically what was done by the architects of the Gothic Revival and is done by those who dabble in 'period design' to-day.

"On the other hand, there is no reason why we should ignore tradition as does the engineer, whose method of expression is a sort of original and ferocious journalism, so dear to the heart of Mr. G. Bernard Shaw; yet to the discerning eye even engineering in its expression is becoming more tempered and urbane.

"As a mere matter of expediency, however, the energy spent in learning the nuances of style for the purpose of reproduction could be better spent in examining old craft methods with a view to mastering and improving them; and quite enough knowledge of the style would be absorbed subconsciously while so doing.

"I very much doubt whether a living style is ever produced consciously and of definite intention.

"But that," continued the architect, who certainly was becoming a trifle boring, "that raises another question which is not relevant to our present discussion.

"To return, therefore, to the point, the phrases 'period design' and 'period furniture' are slipshod and amateur expressions; they seem to hint that to-day there is no such thing as period work, when in reality there is a large and organised trade employing thousands of hands hard at work turning out twentieth-century period furniture quite virulent in its purity of style. This furniture spawns in the more commercial workshops of Curtain Road and High Wycombe. It is the natural product of our civilisation, embodying our ideals, flaunting our aspirations, and revealing our shortcomings."

The architect seated on the table of the billiard-room had wanted to make this speech for some time. The opportunity had come unexpectedly, and he had made full use of it; but he had gone too far, for the owner was confirmed in his suspicion that the architect was too dangerous and impossible a man to re-design his billiard-room. "*Monere non punire stultitiam decet.*"

VERNON CROMPTON, F.R.I.B.A.

Architectural Causerie: The Sordid Side

THERE is a wall forming the end of a certain terrace in a drab district of London which, by reason of its degradation, lowers the tone of a neighbourhood considered by our grandfathers to be highly genteel. These genteel parts have passed the Micawberian stage of snobbish anticipation; like the char lady, who has known better days, they are inclined to be shy and awkward as the mood takes them.

* * *

From the standpoint of history there is nothing fundamentally wrong with the particular terrace beyond the settlement and wrinkling of age. Each house has a semi-basement storey, the windows of which rise up expectantly to look at the doings of the world beyond the sloping gardens; the Mansard roof still holds the two diminutive bedrooms that once housed a staff of three domestics. A century ago these desirable habitations formed the subject of title-deeds held by doctors, lawyers, and half-pay captains, to say nothing of several gentlemen whose daily avocations drew them to Somerset House; not to forget the spinster who kept the Academy for Young Ladies, the fourth from the end. You can see the remains of the lugs that once held the brass plate on the railings to this house.

* * *

The original owners disappeared from the scene in the 'thirties. Some lingered on till ten years after Queen Victoria's Coronation. From the time of the Great Exhibition until the Franco-Prussian War, descendants of the original owners enjoyed each of these family residences, which included in many cases family possessions as well.

* * *

To the tune of the "Gondoliers," the great migration took place. Aunt Matilda sighed for the country and moved to Tooting. Uncle George preferred Richmond. Father opined that Finchley Road was ideal for his growing family. Old Jarley, on the other hand, who was reputed to be a miser, suddenly gave the lie to such rumours by ordering the building of a large mansion at Penge facing the grounds of the Crystal Palace.

* * *

A new race moved in. There were journalists from Fleet Street, several City clerks with their respective families, a lady who let rooms to theatrical people, while a flashy gentleman, who cultivated a horsey appearance, rented the former school for young ladies. There were others also. Twenty years later further changes occurred. Some of the people had got on, others had gone off. Letchworth and Golder's Green act as twin magnets; hence the last migration. By this time most of the title-deeds had been secured by a little gentleman of Oriental countenance, whose zeal for business, seconded by the efforts of his legal adviser, Mr. Fogson, enabled him to become the owner of property. Old tenants were cleared out, the roofs were patched, plaster ceilings repaired, and conveniences installed on each floor. At last the houses are ready for all and sundry to select, with this reservation—the rooms are to be let in pairs.

* * *

When I walked through the street of the terrace a few hours since I took in the scenery of the present comedy with mixed feelings. There were the original door-knockers, long tailed, Minerva-headed, lion-masked, and Gorgon-like, mourning the broken bell-pulls which sixty years ago had been their help-meets.

* * *

No one seems to require you, O aged Corinthians, once the pride of the Row, oftentimes bedizened with satin bows and sometimes made melancholy in crape. Rust and paint have paralysed your action; how you resent the fact that the door adorned by your presence is always open. The front gardens are weedy, the railings once typical of Chinese taste are on their last *lugs*, the York stone steps are hollow at the centre. Day and night the terrace front emits a permanent aroma of burnt food which lace curtains and lingering plants cannot entirely restrain.

* * *

Lord Nelson fought the battle of the Nile to preserve his country from the machinations of Bonaparte. He also lent his name to this particular terrace, wherever it is; at any rate, the man who projected the scheme in 1797 borrowed the name of the Admiral without permission a year later, as the local tablet records. The Royal Institute does not contain any book or collection of drawings giving the name of the excellent foreman bricklayer who acted as architect-builder for this particular terrace of genteel houses. He was evidently a man of enterprise, for he had a nice taste in brickwork. He knew that Mrs. Coade, or her manager, Seely, would allow him three months' credit for the ornaments in artificial stone, which he thought would look attractive round the doorways. He knew how to buy hob grates from the Carron Company, and he had the perception to enter into a working partnership with a carpenter and joiner friend, who possessed a copy of Will Pain's excellent manual. The terrace was built as the Building Act directed, the District Surveyor was satisfied, and the lawyers of Bedford Row, who had found the money, expressed themselves as being delighted with the result. Prospective buyers were soon found, title-deeds were made out, and Nelson Terrace entered the nineteenth Century.

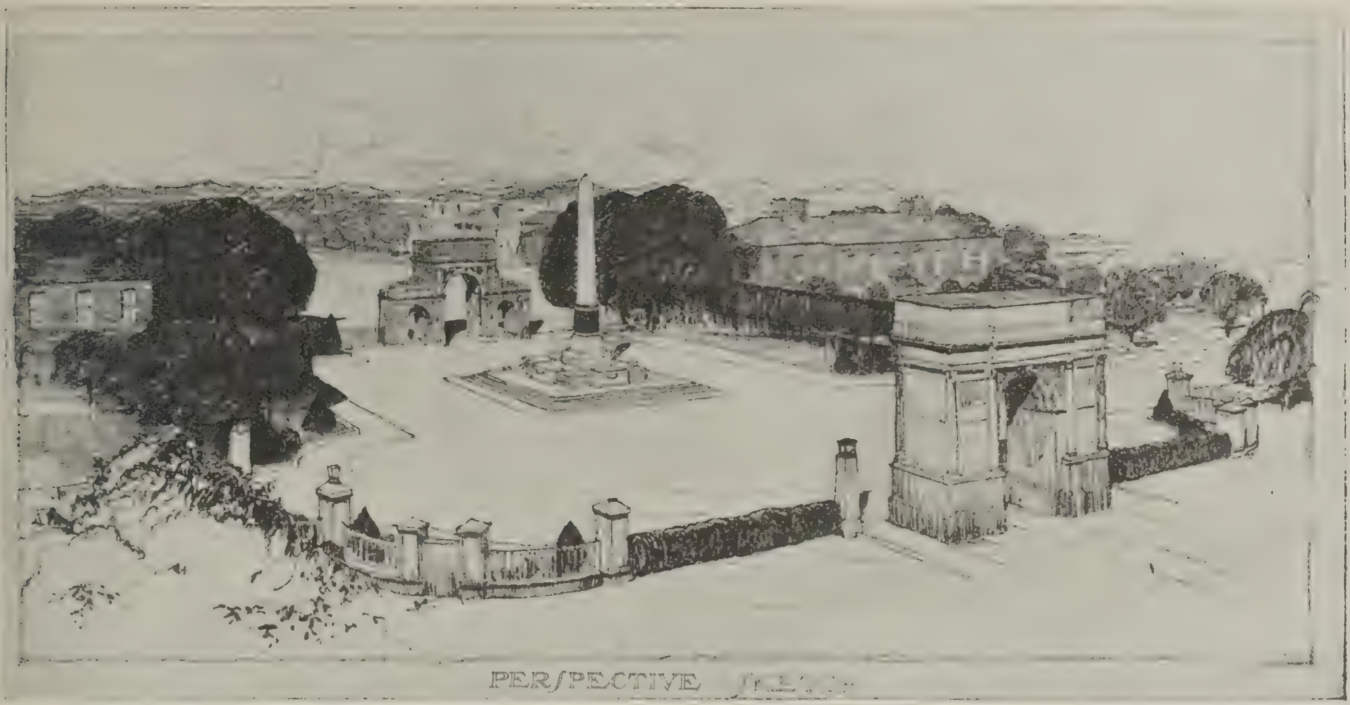
* * *

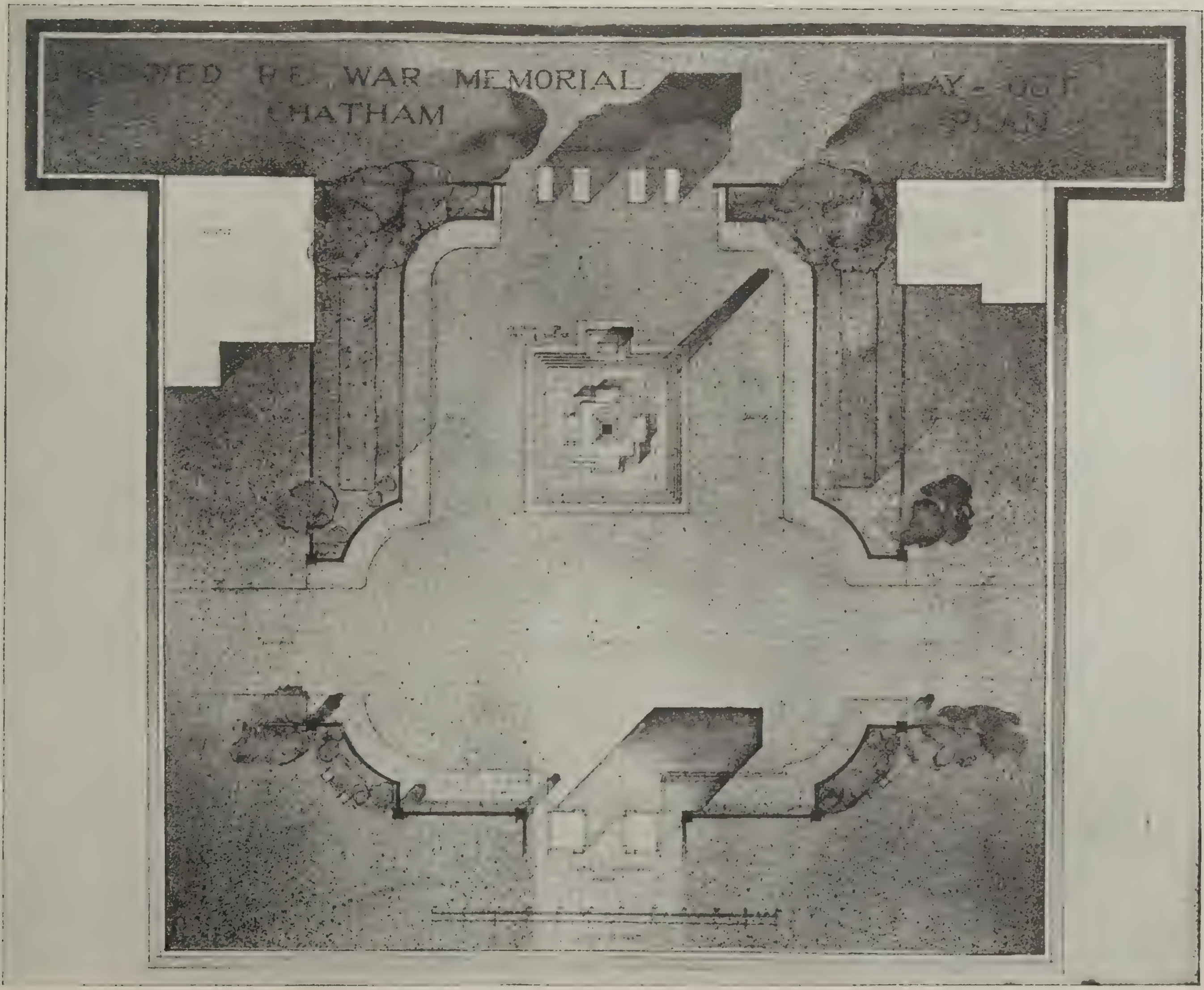
I have no quarrel with the man who built it, although I can read his secrets and intentionings, neither have I anything but an amused indifference for the people who now haunt the various pairs of rooms, break the balusters on the stairs, and place cracked tea-cups on the sacred hobs. My quarrel is with none but the sordid ending of the terrace wall, which has lowered the tone of the street and in time will prove its undoing.

* * *

The craze for gain is a human trait. It is peculiar to all ranks. Read the following, and the meaning of this gossip becomes apparent: "Side of houses wanted for the display of bills. Good prices given for superior positions in neighbourhood where such signs have not been previously exhibited. Apply, Paste and Pott, Billiter Street, W.—[Advt.]" Here is a chance for the London Society to act at once. Why should it be possible for the optics of decent citizens to be ruined by the spoliation of charming streets, and why should the interesting parts of London town be thus hastened to their doom?

AERO.





ROYAL ENGINEERS' WAR MEMORIAL COMPETITION, CHATHAM: FIRST PREMIATED DESIGN
HUTTON & TAYLOR, FF.R.I.B.A., ARCHITECTS.

Correspondence

"Seed Thought" and Design

To the Editors of The Architects' Journal.

Sirs,—A somewhat remarkable instance of the perpetuation of an idea can be seen in Sir Edwin Lutyens's design for the main gate at Delhi, which is now on view at the Royal Academy exhibition.

On the faces of the immense piers flanking the great arch, and rising to a height well above its springing line, the designer has introduced flat buttresses whose general proportions and contour are unmistakably inspired by the Whitehall Cenotaph.

Whether this re-use of a markedly successful motif in design was conscious or not is a question concerning which it is hardly likely that authentic information will be forthcoming. Nor is it material to know which of these mental processes operated, since the result would have been the same.

The really interesting point about it is the evident difficulty of shaking off the influence of a deeply-rooted and indelibly impressed seed thought. It is a phenomenon which all designers will have experienced, more especially when they are called upon to produce an alternative solution to a given problem.

F.R.I.B.A.

The Builders' Clerks' Benevolent Institution

To the Editors of The Architects' Journal.

Sirs,—As many of the supporters were not present at the annual dinner held at the King's Hall on Tuesday, may I ask you to be good enough to allow me through the medium of your journal to convey the cordial thanks of the committee to all who so generously assisted this worthy cause by subscribing to my list? The Institution deserves the wide support of the trade, and its committee feels that the scope of its work only requires to be better known to receive even fuller support.

EDMOND J. HILL,
President.

Books on Quantity Surveying

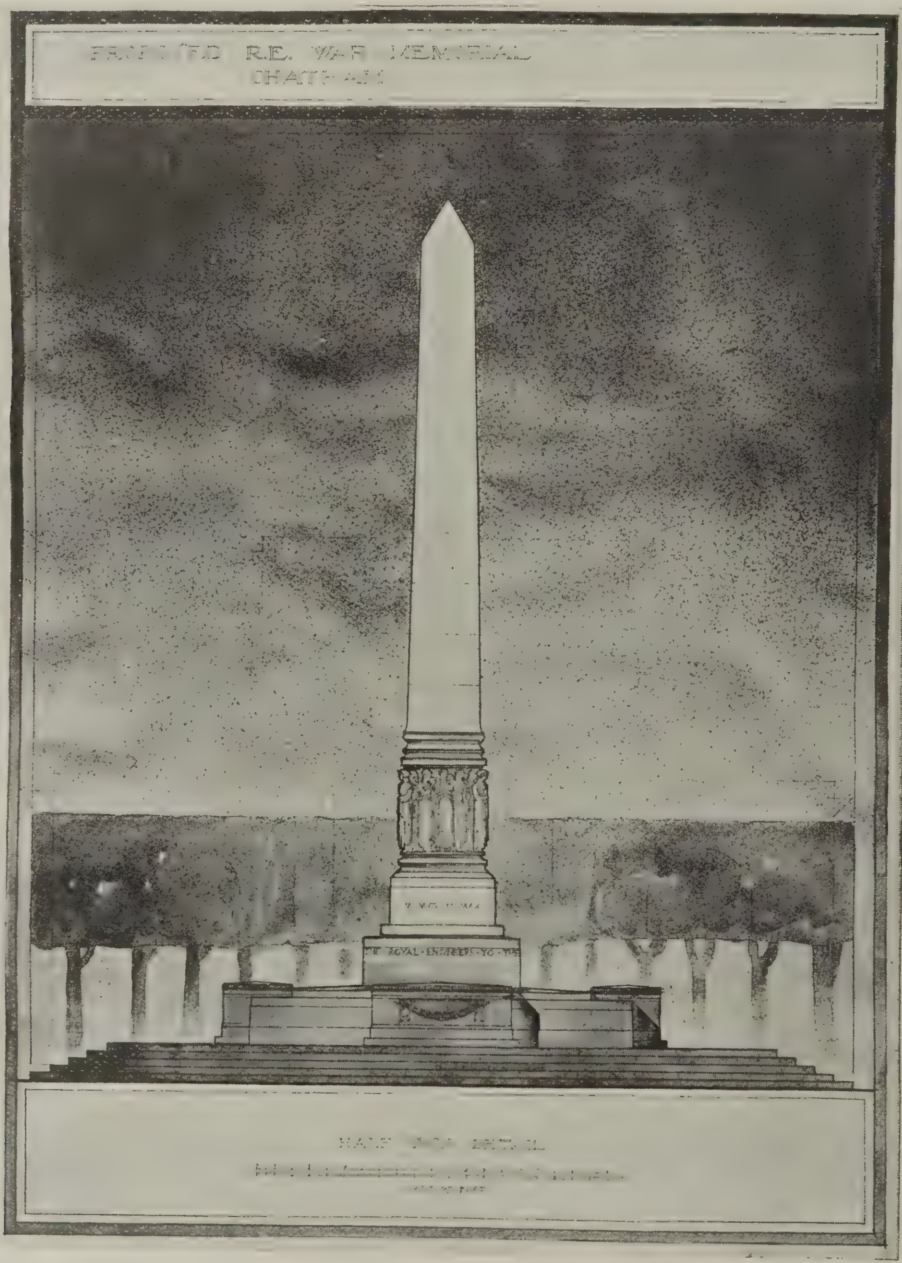
To the Editors of The Architects' Journal.

Sirs,—Some time ago you recommended me Leaning's "Quantity Surveying." I have tried everywhere and cannot buy this book, either new or second-hand, as it is "out of print."

If any of your readers would care to sell, at reasonable prices, any books on building construction, quantity surveying, and other subjects for the Surveyors' Instsitution examinations, an ex-Service student would be extremely grateful.

C. E. KENNEY.

157 Burrell Road, Ipswich.



R.E. WAR MEMORIAL COMPETITION: OBELISK IN FIRST PREMIATED DESIGN. HUTTON AND TAYLOR, FF.R.I.B.A., ARCHITECTS.

R.E. War Memorial Competition

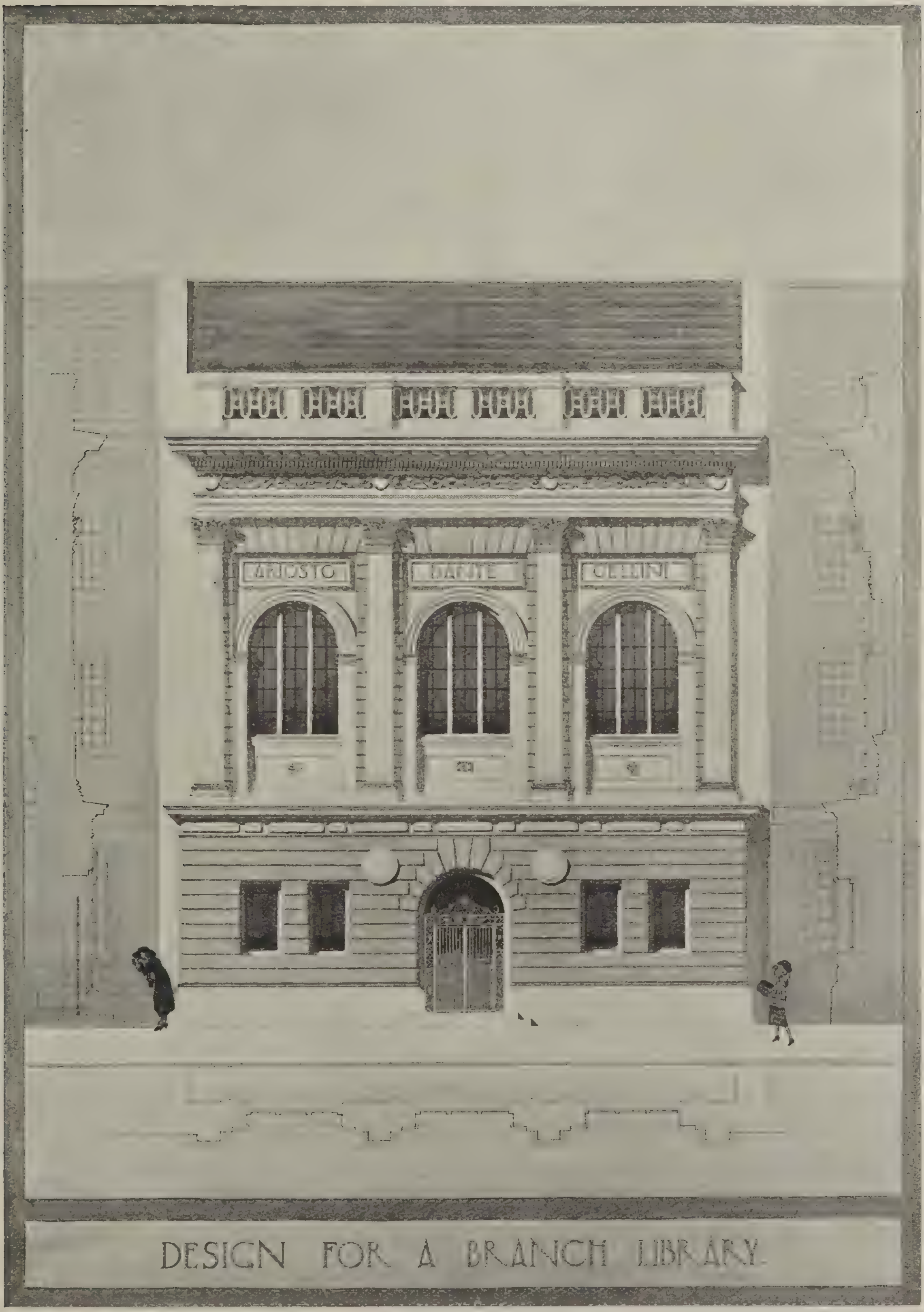
As we announced last week, the assessor in the above open competition, Sir Reginald Blomfield, R.A., Litt.D., has awarded the first premium (£200) to Messrs. Hutton and Taylor, FF.R.I.B.A., of 212 Bath Street Glasgow; the second premium (£125) to Major E. Vincent Harris, O.B.E., late R.E., of 29 St. James's Square, London, S.W.1; and the third premium (£75) to Messrs. W. Harvey, J. F. Wilson, A.R.I.B.A., and Ferdinand V. Blundstone, 119 North Hill, Highgate, N.6. The committee have accepted the award of the assessor, subject to certain modifications in detail, and the work will be put in the hands of the competitors placed first by the assessor. 101 designs were submitted. The winning design comprises on obelisk in a large open space, approached from two sides by triumphal arches.

Work of the Liverpool School

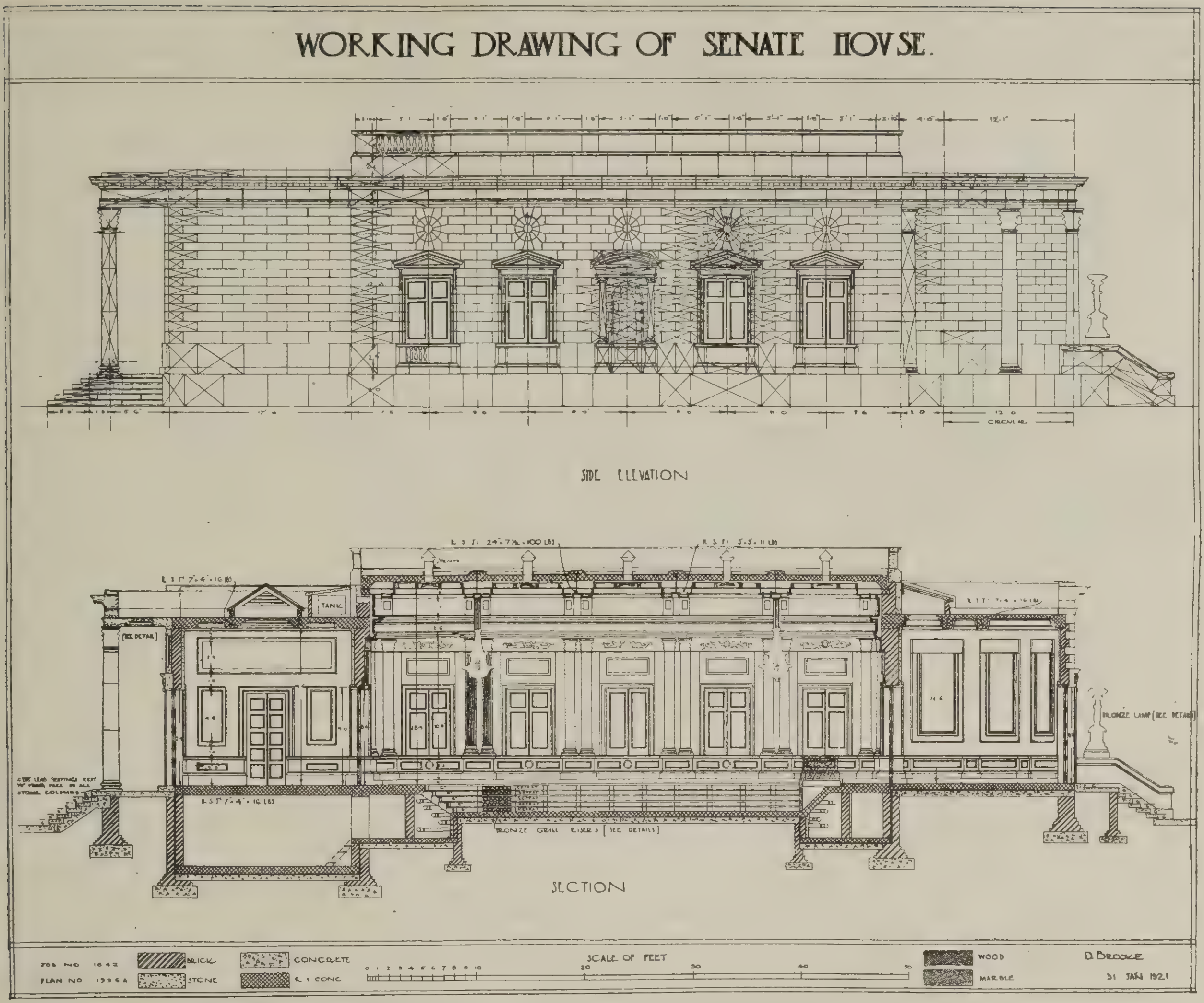
In this issue we illustrate some representative examples of work by Third-Year students of the Liverpool University School of Architecture. The branch library designs illustrate a type of problem now rarely set in the Liverpool School. It is purely a façade subject, and was given during a short interval between larger designs worked out in the usual way in plan and section. The programme described and delimited the site, determined the nature of the plan, and the number and character of the floors. Students were therefore simply required to compose elevations which would arise from and express the programme. A subject developed logically from plan—a Senate House to be conceived as an isolated building in the centre of a University quadrangle—is illustrated in the remaining drawings. In this case the designs had to be presented in two forms—as a series of rendered streets and as a set of working drawings. The preparation of complete working drawings now forms an integral part of the curricula of the third, fourth, and fifth years in the Liverpool University School.

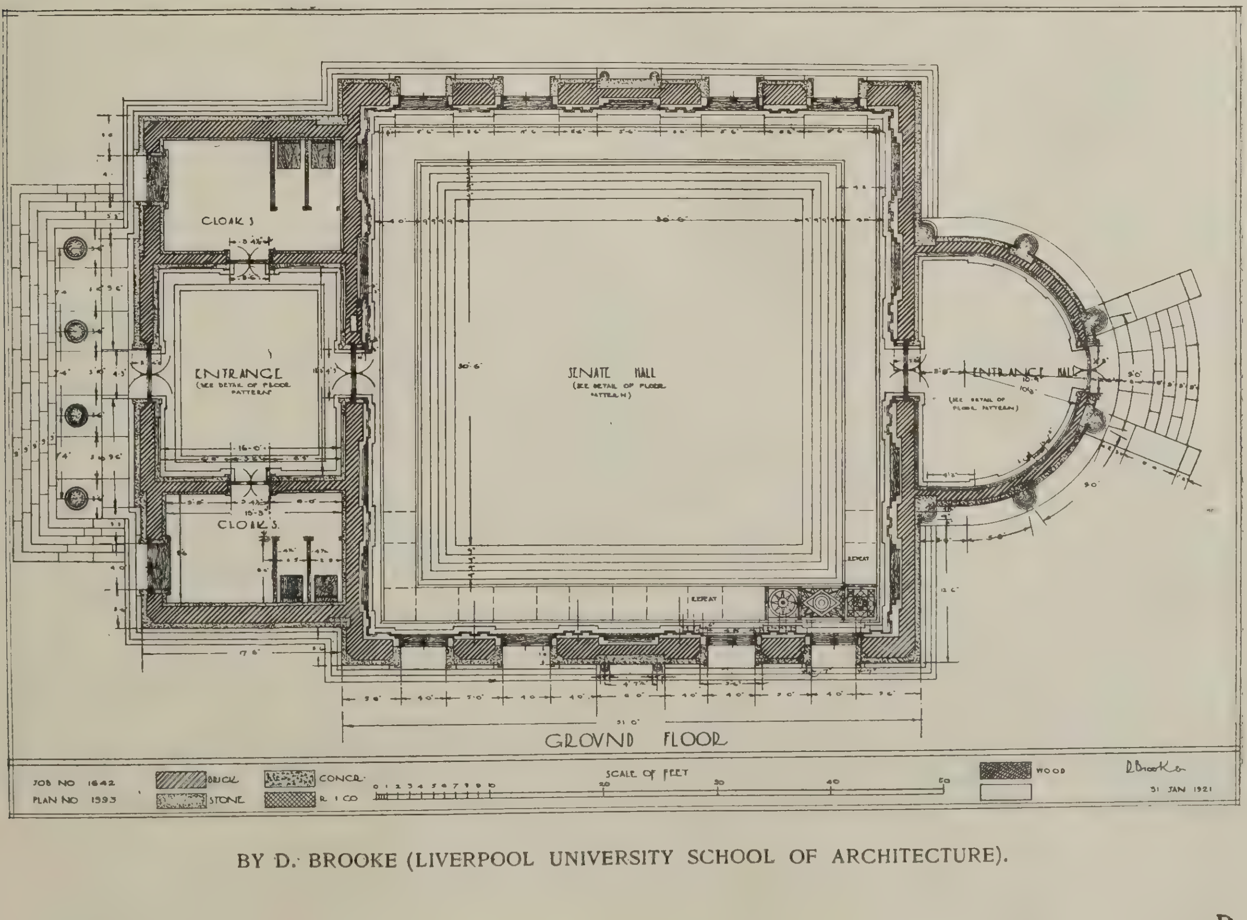
Architectural Designs. 12.—A Branch Library

By D. Brooke (Liverpool University School of Architecture)



The conditions governing the above design (an excellent example of the scholarly type of work produced in the Liverpool School of Architecture) are set forth in the notes which appear on the opposite page.





BY D. BROOKE (LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE).

Architecture in Relation to the Architect[*]

By J. C. DEWHURST, F.R.I.B.A.

MY inaugural address dealt principally with the subject of architecture in relation to the public; the importance from a psychological standpoint of an architectural environment giving visual satisfaction as well as physical efficiency; and the building-up of an educational system which should equip men to advance with greater confidence in the direction of this ideal. This time I propose to consider the subject of "Architecture in Relation to the Architect."

As we rapidly approach the end of the first quarter of the twentieth century, the significance of many of the great movements and tendencies which have taken place during the century which has passed cannot fail to be impressed on all thoughtful minds. That period is now exhibited in truer perspective than it was a generation ago, and the fierce searchlight of present-day criticism has revealed the cause and traced the effect of influences on its architecture, due to those movements or tendencies, which appear to have been only imperfectly realised hitherto.

The steady growth of Renaissance architecture from the fifteenth century, ceaselessly invigorated by Greece and Rome, was checked, so far as Great Britain was concerned, by the rise of the Romantic School in literature towards the close of the eighteenth century. This school, typified by the writings of Sir Walter Scott, seems to have been responsible for the birth of the Gothic revival, which first showed its influence in the domestic work of the period. One example of this phase of Gothic in our immediate neighbourhood which occurs to my mind at the moment is Rathmines Castle. The house as it stands to-day was built on the site of an older house about the beginning of the last century, and exhibits features peculiar to the Romantic School, especially in its internal fittings.

One is constantly reminded of the Romantic School of Gothic by some of the station buildings on the main line of the Great Southern and Western Railway, which were designed by Sancton Wood in the forties. Sancton Wood, who was born in 1814, became a pupil of Sir Robert Smirke about 1830, and must have been trained in the strict classical manner of his master, the architect of the British Museum. It is strange, therefore, to find that the author of such a composition as Kingsbridge Terminus, which carries on the eighteenth century tradition with aristocratic dignity should—two years later—out-Gothic the Gothicists, so to speak, in the smaller stations on the system; because that is what he has done.

These station buildings are very irregular in plan, and are loaded with Gothic features of every conceivable kind; cut barge boards and brackets with mouldings elaborate and fantastic. Obviously, the picturesque at any cost was the order of the day. The Americans, I believe, describe this period in their own country as Carpenter Gothic. These stations were being carried out simultaneously with stations on the old Waterford and Limerick Railway, where we find the classic influence predominates; undoubtedly an opening skirmish in the battle of the styles.

As the Romantic School began to wane the School of the Churchmen arose, and the revived Gothic attained its greatest glory in church work. Like their prototypes of the Middle Ages, the churches of this period will always attract the admiration of the initiated. Full of Christian symbolism, both in outline and detail, the best buildings of this school express their purpose, and never fail to create the right atmosphere.

The battle of the styles was the inevitable result of the Gothic revival. It was soon followed by the cry for a new and original style. As this cry synchronised with the worst period of unenlightened industrialism in England, it naturally produced the individualist who, deprecating tradition, has left use examples of architecture which are now more or less at a discount.

Mr. G. Gilbert Scott remarks: "It is interesting to notice the quality of architecture produced in this country during

SENATE HOVSE FOR A VNIVERSITY

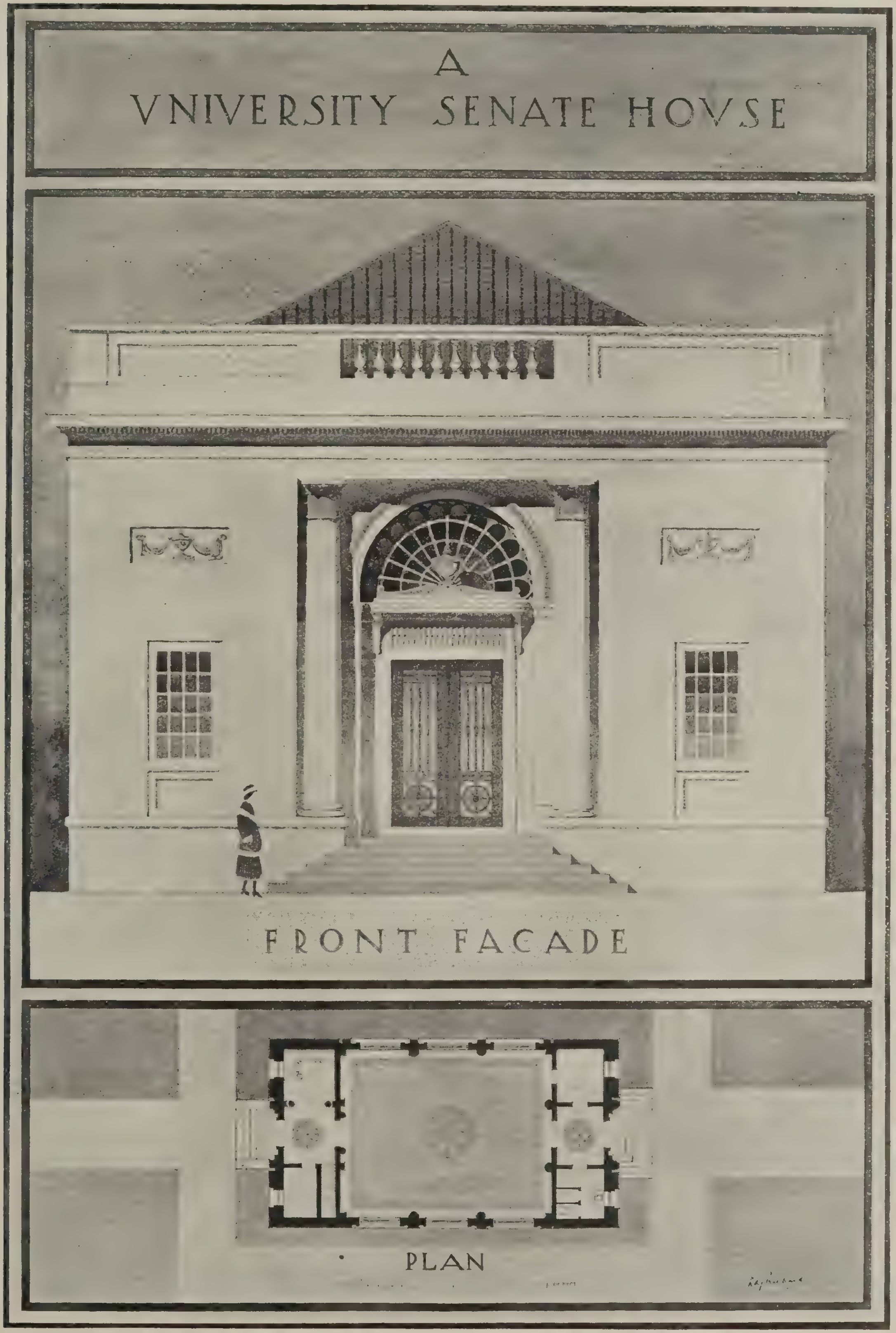
BY R. W. H. VALLIS (LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE).

---

[*] Extracts from an address delivered to the Architectural Association of Ireland.

Architectural Designs. 13.—A University Senate House

By L. A. G. Prichard (Liverpool University School of Architecture)



This design is for a building conceived as an isolated structure in the centre of a university quadrangle. Designs had to be presented in two forms—as a series of rendered sheets and as a set of working drawings. Further notes on the work of the Liverpool School of Architecture are given on page 582.

the period of individualism. That fine individual work has been done no one can deny, but these efforts stand out as exceptions, and the average quality of work has been extremely poor and far below the standard reached in previous ages. I attribute this to lack of collective effort. The fine work of past ages was produced when tradition was a living force; the result was cumulative."

About fifty years ago a rather severe architectural critic, Sir Edmund Beckett, better known as Lord Grimthorpe, whose name was anathema to the architects of his day, and to whom the architects were anathema—tit for tat—wrote, among other works, a Book on Building. The philosophical part of the book is well worth reading, but I would not recommend an architectural student to accept all the author's views on technical matters, nor to crib his typical plan for a country house.

In this Book on Building he points out that one of the greatest fallacies put forth by the demanders of a new style was that of denouncing modern Gothic as the copying of an old style, whereas the critics of the Evelyn School in the seventeenth century denounced the Gothic style as modern, and set up the Renaissance as truly ancient. He goes on to say: "In days when there was real architecture there was no architectural philosophy. Men designed and built well simply because they understood it, and had naturally good taste, and were not always striving to appear original, or to do something striking, or to be just ahead of the fashion and yet in it, as fine ladies like to be, and they had no vulgar tastes to play up to in competitions or for ostentatious employers." How remarkably up-to-date all this sounds!

It seems to me that the nineteenth-century styles are merely episodes in the development of the underlying classical movement: a kind of exploration of every avenue along the main route, if I may be permitted to use a political simile. As each avenue in turn proved to be a cul-de-sac, it was hurriedly abandoned, and a return was made to the main line of communication with the known past. I like to think the Gothic branch still runs parallel with the main line of communication as a medium through which our religious aspirations may be expressed.

Persistence of the "Orders."

In considering accepted traditional facts we are brought face to face with the orders, which have been described as the most persistent formula of human expression in Western Europe. Their influence, like charity, has never failed. Our eyes rest on the well-known and beautiful examples everywhere. The sturdy Doric predominates in countless examples, closely followed by the Ionic, while the majesty of Jupiter Stator is presented to us in all the glory of its rich detail in some form or other over and over again. What could be more pleasing to the eye than the Attic Base? We know that the perfect combination of mouldings forming this base was in existence more than two thousand years ago, and we still rejoice in its unaltered presence.

The same may be said of other combinations of mouldings. With what pride do we use these ancient and honourable methods of expression in our compositions. What a pleasure it is to put them down on paper, while to see them materialise brings joy unspeakable to those who are fortunate enough to possess rich clients. In the orders we recognise a foundation on which all our work is built up; and, as we know, they need not necessarily appear in the flesh to be an influence in building: they can appear in the spirit.

The ordinary domestic work of the country—the vernacular—which depends on local tradition for its chief interest, should be evolved in the light of that larger tradition rooted in Western civilisation. The evolution of commercial and industrial building presents a more difficult problem than that of domestic work, because the conditions are more exacting, and are ever changing. We can at least be truthful in the construction of this work, and use traditional embellishments with restraint and understanding.

An increasing desire for truth is a tendency of the age: at all events in the architectural world. Use character; civic character and local character are recognised as desirable qualities to strive after in composition. The architectural schools endeavour to teach a unity of expression arising out of the aspiration and needs of the present age, in order to establish a manner of building which—though rooted in the past—will distinguish these times from the years that are gone.

No one will deny that the average architect nowadays can draw much better than the old designers, but there is sometimes a tendency to forget that the drawing is, after all, only a means to an end. It was not usual in the old days for the architect to design in anything like the minute detail customary now. As master of the works originally he co-ordinated a group of craftsmen, each capable of supplying the details of his own craft. There appears to have been an æsthetic domination of the ancient building trades during the Renaissance period, which gave us the architect as we understand him.

A recent writer has pointed out a latter-day development of the profession which spells the enslavement of the architect by the surveyor. This development is economic, and owes its existence finally to the growth of big towns, large organisations, and the contract system. It is bound to become more pronounced in these times of high costs for building work, and the question of cost is often a terrible nightmare to us. If I may strike a practical note, I would suggest that our younger members should make a study of prices sufficiently to enable them to estimate, with some degree of accuracy, work which it is impossible to cube.

From a purely professional standpoint the most encouraging thing is the breadth of culture, the philosophical insight into the essence of things, and the liberality of judgment that mark so many of the architectural profession to-day. Gone are the old styles of the "Battle of the Styles": the swords are beaten into pruning hooks, and these are being used very efficiently in clearing away the thick of superstitions and prejudices that for so long choked the struggling flower of sound artistic development.

The Goth and Pagan can now meet safely in street or drawing-room, without danger of acute disorder; even the structural engineer and artist preserve the peace (in public): for all have found out that architecture is much bigger than its forms, that the fundamental laws are the same for all good styles, and that the things that count are structural integrity, good taste, restraint, vision, and significance.

Book Notices

Modern Painting.

We may not agree, but at least we will try to understand, we said to ourselves when we took up this book, but try as we would we could not arrive at any clear comprehension of the "modern movements" in painting which make a woman look like a wooden doll, a flower like a walking-stick, and a landscape like a bit of waste land in Gehenna. And the disease has spread to poetry and music, for in the one we get "Coterie" and Dada-ism, and in the other ragtime and jazz.

Mr. Marriott shows how Post-Impressionism grew out of tradition, and says that it is a perfectly natural form of art. We cannot agree, and must confess again that we fail to understand.

"Modern Movements in Painting." By Charles B. Marriott. Published by Chapman and Hall, 15s.

Eighteenth-Century Ceilings.

Those artists and craftsmen of the past who acted on the courageous self-assurance that their work was worth publishing conferred a favour on their contemporaries and left a legacy on which posterity is sometimes glad to draw for inspiration. George Richardson, who in 1774 rejoiced to proclaim himself a draughtsman and designer, who had served for more than eighteen years under "those eminent masters, Messrs. Adam, of the Adelphi," plainly thought it a pity that the work of a pupil of such masters should languish in obscurity, and he was irrefragably right from every point of view. Comparatively few they be who are privileged to see artistic ceilings in situ, and publication multiplies a thousandfold the opportunities of admiring the work and of adapting it to fresh uses.

Richardson's aspiration for his book holds good to-day. He "would fain hope, with some Degree of confidence, that these Designs" would "not only be an acceptable Amusement, but a considerable acquisition to the Nobility and Gentry of distinguished Taste, and Artists of different Professions. The former having such a Collection in their Possession," the quaint preface continues, "may not only make choice of any one they like, and have it executed, but may single out particular Parts and Ornaments from the whole, and by blending them with others, thereby form new Ones, according to their Fancy. . . . They may be occasionally useful to Architects, whose Genius is capable of arranging them in different Figures, as they will admit of almost infinite Variations." It would be impossible to express more clearly the functions of the book; and if it had not fulfilled them quite admirably, as well as some other points not contemplated by the author, it would not have been worth while to reprint it. Besides being valuable for adaptation as the author suggested, the designs are useful historically. They are a faithful reflection of the style of decoration prevalent in the period of the brothers Adam, the liking for whose art has seen so wonderful a revival in our own days as to confirm the view of those who hold that it contained vital elements. To-day the work is being extensively copied—too often, as Hamlet said that the players imitated Nature—"most abominably." Failure to get at the true spirit of it is, as often as not, due to the absence of facilities for studying it at close quarters. This book, with its forty-eight large plates of designs by the most accomplished of the Adam draughtsmen, designs which exhale the very spirit of the Age of Elegance, places in the hands of the architect, decorator, and connoisseur the most ample means of acquiring a true feeling for eighteenth-century Classicism, and incidentally and subconsciously imbibing as from the fountain-head the principles of refined taste. This book provides for the architect, the decorator, the connoisseur, the student, the means of becoming thoroughly saturated with the Adam style. Richardson thought he was deriving directly from "the Antients," but his designs are full-fraught with eighteenth-century character. The book, carefully reproduced, partly in facsimile, from the original volume of 1774, will lend a decided impetus to the fascinating style which it commends by such a large number and variety of beautiful examples.

The example reproduced below affords a wealth of motifs capable of adaptation to modern decorative purposes.

A Book of Ceilings. By George Richardson, F.S.A. Forty-eight plates. New York: William Helburn, Inc. London: Technical Journals, Ltd., 27-29 Tothill Street, S.W.1. Price £4.

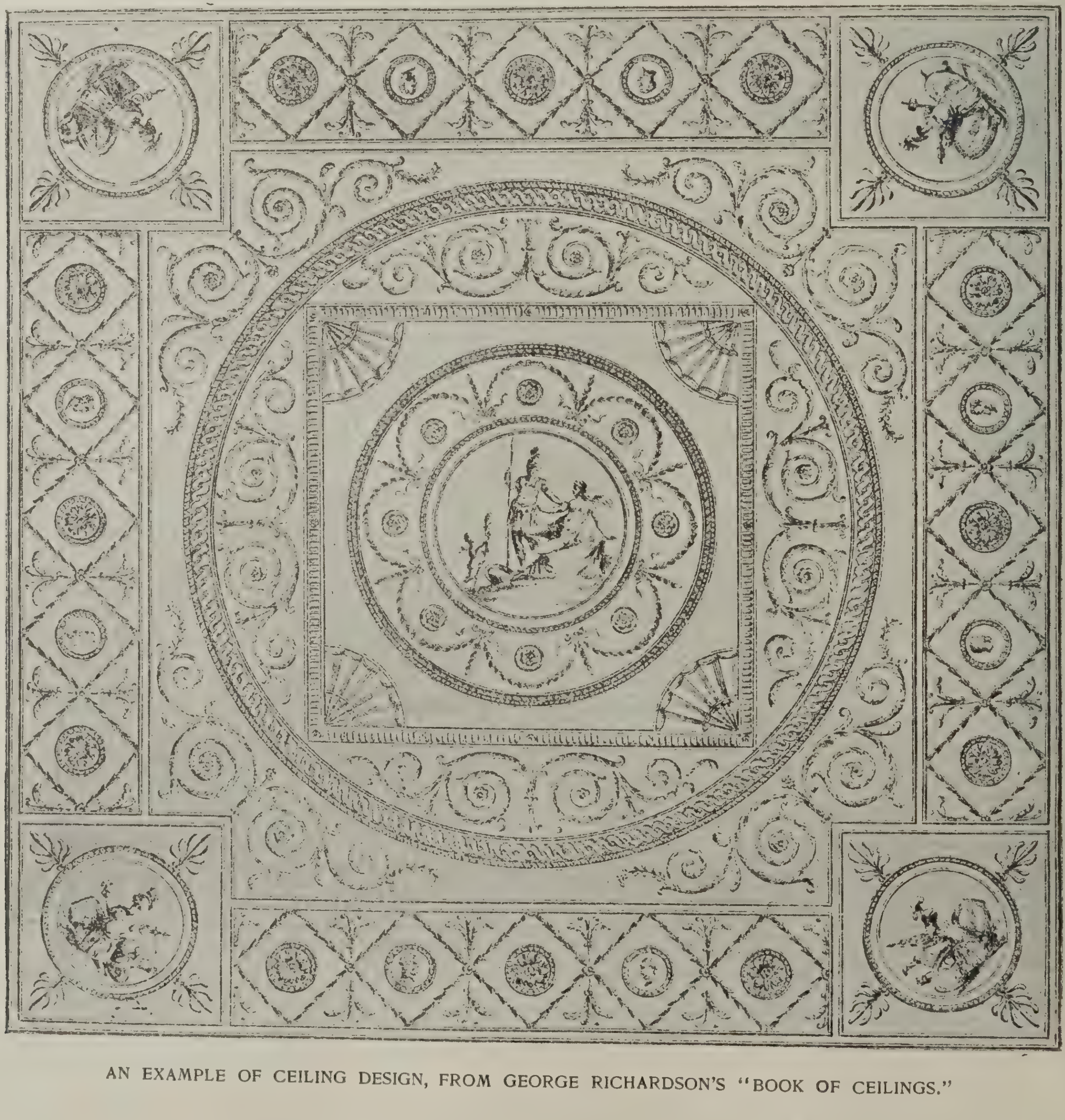
The Art of Lettering.

In Britain, during the past ten years or so, there has been a marked improvement in the art of lettering. Sign-painting has become an art, and as much may be said for ticket-writing. Very special attention has been given to the subject in our craft schools, and our young sign-writers and ticket-writers, if given a free hand—that is, if not overborne by the whims and caprices of ignorant clients—have now, thanks to really scholarly tuition, the knowledge and skill to produce really creditable lettering—simple, shapely, dignified, supremely legible.

One great lesson that the sign-writer is beginning to learn is the avoidance of a certain fallacy that has peculiar temptations for the young and the ignorant. Commonly the shopkeeper imagines, and the unlettered letterer agrees with him, that a fascia should be filled to its utmost capacity with lettering—big, blatant, bullying. This is a huge mistake on several grounds. In the first place, margin is a universal craving of the human soul. Next, letters may be easily too large for the human eye to read with comfort, in which case they are displeasing; by their mere size they exact too much effort and demand too much attention, and if they happen also—which is too frequently the case—to be "exprest in fancy," they are additionally illegible, and, by this and by that, very few persons will be at the pains to decipher them. Never should the lettering on a fascia occupy much more than a third of its depth. Neglect of this truth results in an appalling waste of paint.

Illegible they may be, too, on another ground—a light ground. Most sign-writers seem utterly oblivious of the unquestionable fact that light letters on a dark ground are twice as visible as dark letters on a light ground. At about the distance at which a sign is most commonly regarded, the light ground casts a sort of halation over the dark lettering, rendering it quite dim. It thus fails of the chief function of a background, which is not to swamp the lettering in a sea of haze, but to throw it into sufficient prominence for easy legibility.

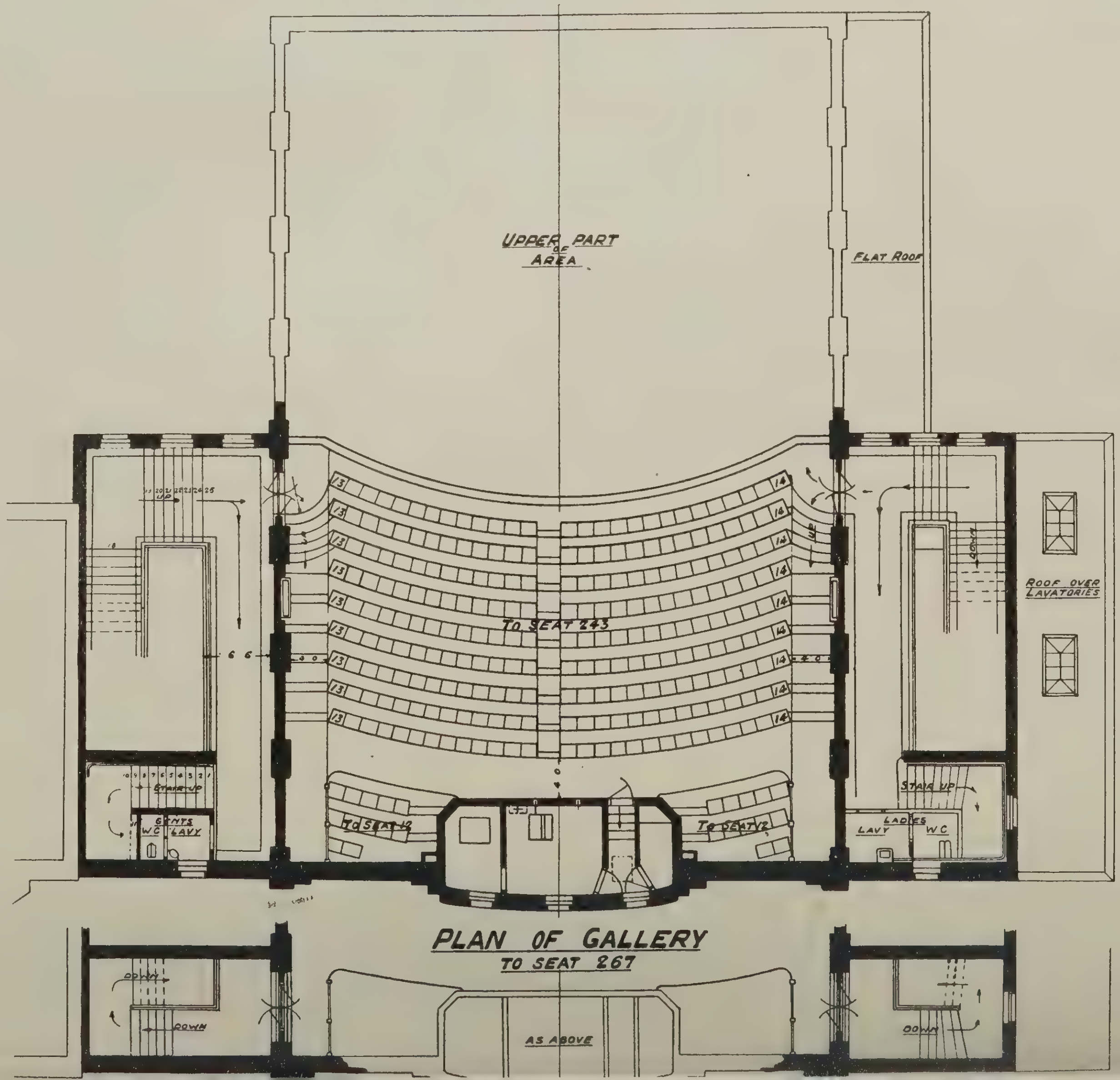
Architects, who by precept and example have done splendid work in lifting lettering out of the deplorable condition into which it had fallen, will not be overwhelmed with gratitude for "Kaem-

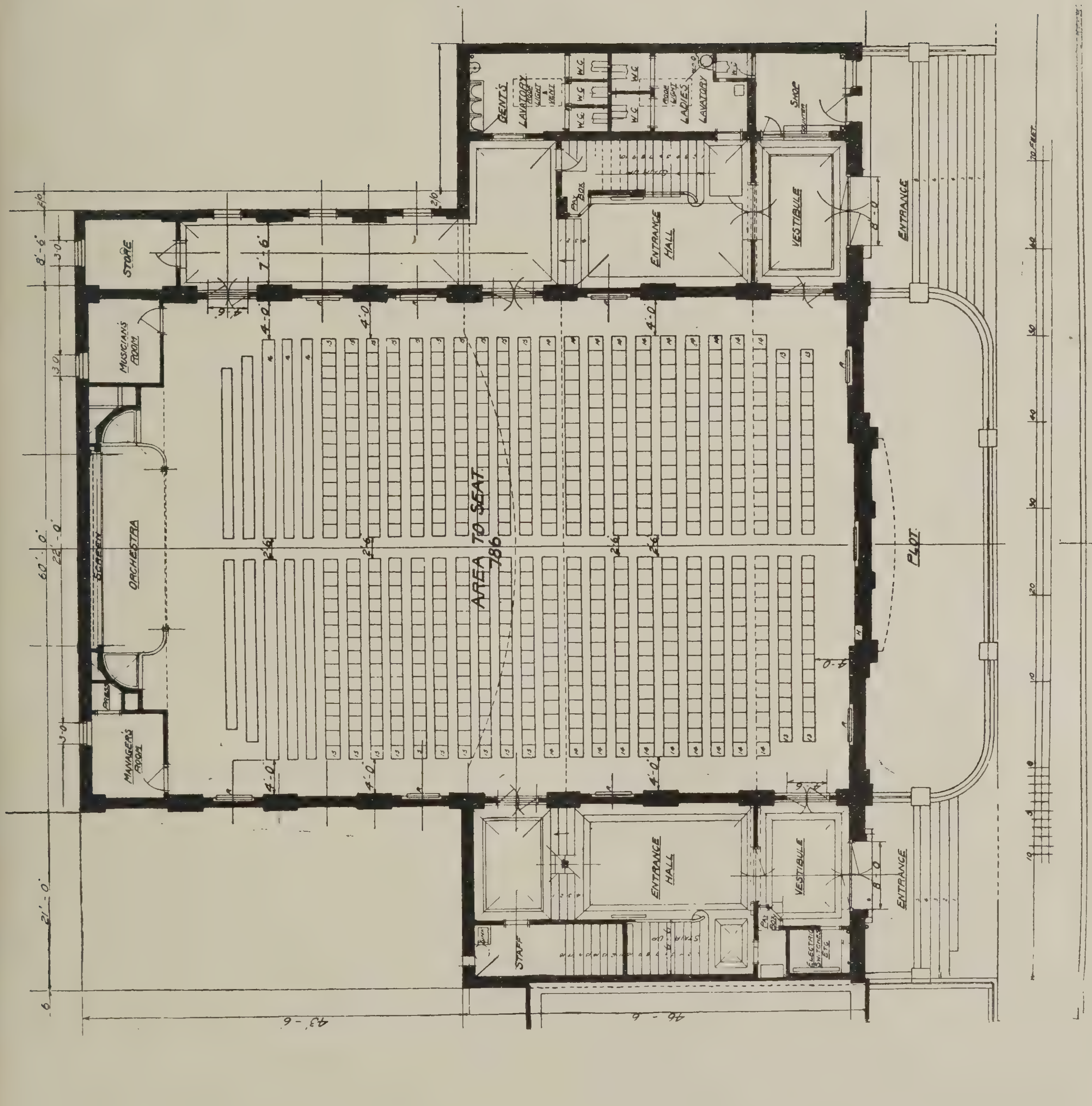


AN EXAMPLE OF CEILING DESIGN, FROM GEORGE RICHARDSON'S "BOOK OF CEILINGS."

Current Architecture. 80.—The New Parade Cinema Theatre, Meadowpark Street, Glasgow

D. McKay Stoddart, Licentiate R.I.B.A., Architect





This cinema theatre, lately completed in Glasgow, provides seating accommodation for 1053 persons—786 in the area and 267 in the gallery. The plan is simple, direct, and convenient in working. Excellent features are a capacious vestibule and entrance hall on each side, the provision of independent access to the cheaper parts of the house, and the curving of the gallery seats.

merer's Practical Letter Book," which contains very few really good examples of lettering, and, alas! a great many that are atrociously ugly, and ought never to have been let loose on a suffering world. The book would appear to be of Dutch origin. Lettering, like handwriting, is so full of national character that it is a fundamental error to import foreign examples for home imitation. Frankly, many of the examples in this book fall far below the standard to which British letterers have attained, and in some instances the book seeks to perpetuate forms that were long ago discarded in this country.

Kaemmerer's Practical Letter Book. Containing Several Hundred Alphabets, Numerals, Monograms, &c., together with Descriptive Text. By J. H. Kaemmerer. London: The Trade Papers Publishing Company, Limited, 326 Bank Chambers, 329 High Holborn, W.C. Price 15s.

Picture Backgrounds.

"Whatever you have in your rooms think first of your walls, for they are that which makes your house and home."

With this quotation from William Morris, Messrs. Arthur Sanderson and Sons, Ltd., of 52 to 55 Berners Street, W.1, introduce their beautifully written—and beautifully produced—booklet of notes on the decoration of the national art galleries. The writers point out that in buildings designed as picture galleries colour and texture are the chief considerations in forming backgrounds, whereas for the householder, whose pictures and works of art are woven into the life of his home, other problems arise. Floor, wall, and ceiling coverings should unite in creating a pleasant atmosphere for himself and his treasures.

The walls of the Wallace Collection, the National Portrait Gallery, the National Gallery, the Tate Gallery, are brought under critical notice, and two pictures from the National Gallery (Raphael's "Ansidei" Madonna and a Jan Vermeer) are reproduced in order to show the service which pattern renders as a background, and, in the latter, the delightfully modulated grey tone of the walls and the perfect balance of colour throughout the composition.

The Fixing of Steel Windows.

A great deal of practical information on the best methods of installing and fixing metal windows in various types of buildings is given in "How to Use Metal Windows," a booklet just issued by the Steel Windows Association. The details illustrated cover the more usual forms of construction, which have been proved from actual practice in all classes of buildings over a period of many years to be sound from every point of view. The satisfactory working of any metal casement largely depends upon how it is fixed, and makers generally will prefer to undertake this themselves.

In cases where this is impossible, the fixing instructions accompanying each detail in this valuable book, which may be obtained from the Steel Windows Association, 246 High Holborn, London, W.C.1, should be carefully followed.

New Town Planning Regulations.

Revised regulations governing the procedure to be adopted by county, town, urban and rural district councils in preparing town planning schemes have just been issued by the Ministry of Health. They may be purchased, price 3d. net, through any bookseller or direct from H.M. Stationery Office.

The Architects' Benevolent Society

The annual general meeting of the Architects' Benevolent Society—now in its seventy-second year of being—was held in the R.I.B.A. Gallery last week, Mr. John W. Simpson, P.R.I.B.A., presiding.

The Hon. Secretary read the seventy-first annual report, which stated that many sad cases have been helped during the year. The total amount of £1,474 12s. 6d. was distributed in relief—£1,135 12s. 6d. in grants and £339 in pensions. As it was realised that at the present cost of living the amounts granted in pensions were very inadequate, the Council decided to make a supplementary addition of 50 per cent. The increased cost of living also influenced the Council in the distribution of grants, as the pre-war scale no longer afforded the same degree of assistance. In view of this additional demand on the Society's funds, and also of the fact that towards the end of the year the accounts showed a serious falling off in subscriptions, while the claims on the Society were increasing, it was decided to issue an appeal for additional subscriptions. On December 18, therefore, a letter signed by Mr. John W. Simpson (President of the R.I.B.A. and also of this Society), Sir Charles T. Ruthen (President of the Society of Architects), and Mr. G. Gilbert Scott (President of the Architectural Association), was sent out to the members of the three Societies. The immediate effect of this appeal was the payment of many arrears in current subscriptions, as well as the accession of a large number of new subscribers. As the report only deals with the affairs of the Society to the end of the year, the response of the appeal is reserved for later publication.

The following donations have been received during the year: £100 in Three-and-a-Half per Cent. War Bonds from an architect who wishes to remain anonymous, Messrs. Searle and Searle £15 15s., Mr. John W. Simpson, P.R.I.B.A., £10 10s., Mr. J. Simpson £10 10s., Mr. T. E. Collcutt £10 10s., Mr. Campbell Jones £10 10s., Mr. J. T. Cackett £10 10s., Mr. R. Brodie Mather £10, Mr. and Mrs. Maurice E. Webb £15 5s., Mr. E. C. P. Monson £10, Mr. A. Sykes £5 5s., Mr. E. J. Pullar £5 5s., Mr. T. D. Atkinson £5 5s., Messrs. W. and E. A. Hunt £5 5s., Mr. Edgar Wood £5 5s., Mr. C. McLachlan £5 4s. 6d., Mr. R. S. Stewardson £5, and various smaller amounts. The total amount received in donations was £340 0s. 6d.

The Manchester Society of Architects have increased their annual subscription from £5 5s. to £10 10s. a year, and increased subscriptions were also received from Messrs. W. Gilbee Scott, C. J. Dawson, E. R. Barrow, A. C. Bond, H. Beswick, E. F. Cobb, R. Burns Dick, H. G. M. Laing, J. O. Smith, F. J. Sturdy, Dendy Watney, T. D. Atkinson, and J. W. James.

The Council are gratified to report that the circumstances of an applicant who had received assistance during the last few years having improved, the sum of £60 was refunded, together with a generous donation; a second applicant also refunded the sum of £7.

The five senior members of the Council retire by rotation, viz., Messrs. Sydney Perks, Arthur Crow, George Hubbard, T. E. Collcutt, and Sir Banister Fletcher.

To fill the vacancies caused by these retirements, the Council have the pleasure to nominate Messrs. Henry M. Fletcher, H. D. Searles-Wood, Dendy Watney, Maurice E. Webb, and Henry Lovegrove, Sir Charles Ruthen (representing the Society of Architects), and Mr. W. G. Newton (representing the Architectural Association).

The Council, in closing the report, desire to acknowledge the great indebtedness of the Society to the Royal Institute of British Architects for office accommodation and for their generous assistance in other ways, and to Mr. MacAlister and members of the Institute staff for their always helpful co-operation in all work connected with the Society.

In moving the adoption of the report, Mr. Simpson said: "I have to congratulate the Society on a satisfactory ending to a year which at one time promised rather badly. During the trying years of the war the Council, largely due to the loyalty of old subscribers, were able to keep the subscriptions at the pre-war level. But last year there was a great falling off. Old subscribers do not, unfortunately, live for ever, and there seemed to be a certain timidity on the part of the younger generation in replacing the losses in the ranks. Meanwhile the claims on the Society were increasing. Assistance afforded on the old basis was obviously insufficient in view of the vastly increased cost of food, clothing, rent, and, indeed, of all things appertaining to the bare necessaries of life. But, in any case, it was felt that a Society with such a purpose as ours, a Society with a history of seventy years of good work behind it—entirely devoted to the relief of our professional brethren who had fallen by the way, or to their widows and orphans—should not be wholly dependent on the loyalty and generosity of a comparative few, certainly not more than 5 per cent. of practising architects.

"It was urgently necessary, if the Society was to carry on its work adequately, that the number of subscribers should be largely increased. I, therefore, in association with Sir Charles Ruthen and Mr. Gilbert Scott, on December 18 last, addressed a letter to the members of the Royal Institute of British Architects, the Society of Architects, and the Architectural Association, urging the necessity of obtaining for the Society a thousand additional subscribers at a guinea each. The immediate result of our appeal was to bring in many subscriptions which had not been paid, and to restore the balance of the old subscription list. I deeply regret, however, that, as a whole, our hopes have not been realised. But, while saying that, I wish to thank most cordially and most heartily those who have responded to our appeal.

"We have received subscriptions and good wishes from all parts of the world—Canada, Australia, India, South Africa, and New Zealand. The President of the Royal Academy sent a cheque for £26 5s.; Mr. Thomas Hardy, our greatest living novelist and an old prizeman of the Institute, and Lord Plymouth, an Honorary Fellow of the Institute, have also become subscribers, to mention only a few distinguished contributors, of whom a full list has already been published in the professional Press.

"The actual result of the appeal so far is: Five hundred and one new subscribers, £597; twenty-four increased subscriptions,

£21; so that the total amount of the addition to the subscriptions is £618. In addition to this amount we have received 121 donations amounting to £437. I cannot call this result unsatisfactory, although I hope that the full number of a thousand subscribers will be reached before the end of the year. We want to make the Society as helpful, and as far-reaching in its help, as possible. This is the last occasion on which I shall take the chair as President of the Architects' Benevolent Society, and it will always be a pleasure to me to look back on my two years of office with the knowledge that during that term the number of subscribers had materially increased, that, though still far from adequate, it had been brought more into proportion with what I know to be the generous feeling of the members of this great profession.''

The report was adopted, after being seconded by Mr. George Hubbard.

The Council elected for the year 1921-1922 was as follows: President, the President of the R.I.B.A.; Vice-President, Mr. Reginald St. A. Roumieu; Ordinary Members, Messrs. W. Campbell Jones, E. C. P. Monson, Herbert Shepherd, Stanley Hamp, Saxon Snell, William Woodward, E. J. Sadgrove, Maurice E. Webb, H. M. Fletcher, Dendy Watney, H. D. Searles-Wood, W. G. Newton (representing the Architectural Association), Sir Charles Ruthen (representing the Society of Architects), and Mr. Henry White.

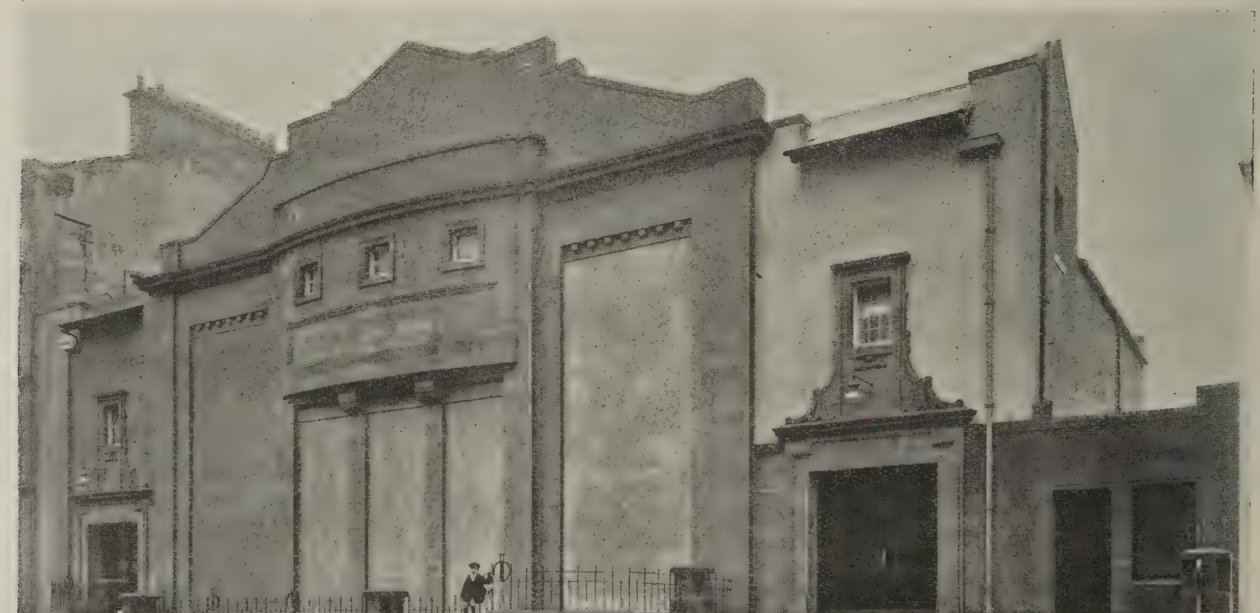
A vote of thanks to Mr. W. Hilton Nash for his services as hon. treasurer was passed, and to Sir Charles Nicholson for his services as hon. secretary. Both gentlemen were re-elected. A vote of thanks to the hon. auditors, Mr. C. H. Brodie and Mr. Henry Lovegrove, was passed, and they were re-elected.

The meeting concluded with a vote of thanks to the chairman.

The hon. treasurer announced that a donation of £100 had just been received from Mr. H. Greville Montgomery, per Mr. John W. Simpson, P.R.I.B.A., as President of the Building Exhibition.

Following is the third list of new subscribers, increased subscriptions, and donations since January 22. The first list appeared in THE ARCHITECTS' JOURNAL for February 9 and February 23:

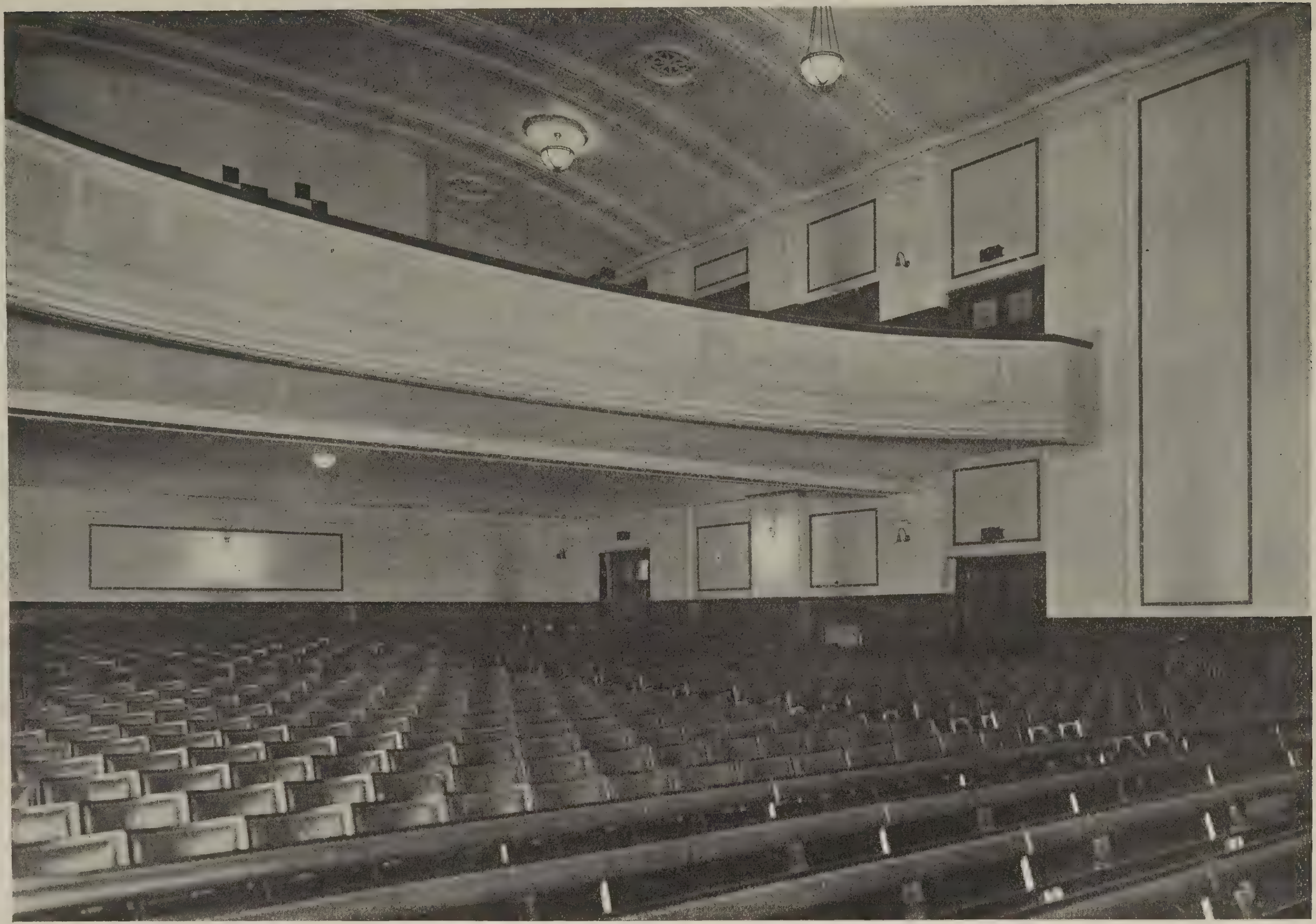
Name.	New subs. £ s. d.	Increased subs. £ s. d.	Donations £ s. d.
Air Ministry, W.C.3 London)	4 8 6		
Allison, R. J. (London)	1 1 0		
Ansell, W. H. (London)	1 1 0		
Awdry, G. C. (Bristol)			7 0 0
Barker, R. T. (London)	1 1 0		
Bassett-Smith, W. B. (Buenos Aires)	2 2 0		
Bates, E. (London) (2 years)	4 4 0		
Ball, C. E. (London)			1 0 0
Bethell, F. (London)	1 1 0		
Bharoocha, Sohrab F. (Bombay)	1 1 0		
Bossom, A. C. (New York)	1 1 0		
Broad, M. C. (Montevideo)	1 0 0		
Bullar, E. (Rangoon)	1 1 0		
Burnet, Sir John, Son and Dick (Glasgow)	1 1 0		
Burnley District Soc. of Arch.			15 15 0
Burton, D. M. (Johannesburg)	1 1 0		
Cable, J. W. (Bombay)	1 1 1		
Caroe, W. D. (London)		3 3 0	
Charter, J. W. (Leeds)	1 1 0		
Claessen, W. (Colombo)	2 2 0		
Clerks of Works Assoc. (London)	2 2 0		
Cornell, W. A. (Hongkong)	1 1 0		
Cowin, N. T. (Johannesburg	2 2 0		
Dallas, J. (Birmingham) (2 years)	2 2 0		
Dannatt, A. R. (Chelmsford)	1 1 0		
Davidson, T. M. (Ruislip)	1 1 0		
Davis, W. J. (Birmingham)	1 1 0		
Delves, S. W. (London)	1 1 0		
Denington, J. W. (Croydon)	1 1 0		
Diamant, A. St. John (Cairo)	1 1 0		
Dick, R. Burn (Newcastle-on-Tyne)		2 2 0	
Dixon, A. S. (Birmingham)	1 1 0		
Emley, F. (Johannesburg)			5 5 0
Farmer, J., Westbrook (Buenos Aires)	1 1 0		
Fletcher, Sir Banister F. (London)			10 10 0
Forster, F. J. (Wimbledon)	2 2 0		
Freyberg, H. (London)			2 2 0
Fritchley, E. W. (Coonoor, India)	1 0 0		
Gamon, C. (London)	1 1 0		
Goode, G. H. (Bedford)	1 1 0		
Gordon, A. (London)	1 1 0		
Grundy, S. (Ulverston)	1 1 0		
Gordon and Gordon (London)	2 2 0		
Greene, Major W. H. (Newfoundland)	1 1 0		
Hobson, J. R. (Rhodesia)	1 1 0		
Hodge, W. A. (Alexandria)	1 1 0		
Hotz, Roland (Simla)	1 1 0		
Howard, E. P. (London)			2 2 0
Hudson, J. (London)		2 2 0	
Ing, F. J. (Durban)	1 1 0		
Jones, V. T. (Port Elizabeth)	1 1 0		
Kaula, W. (London)			1 0 0
Kelley, W. (London)	1 1 0		
Kent, I. C. (Sydney)	1 1 0		
Klingender, F. L. (Melbourne)	1 1 0		
Knight, W. J. (London)	1 0 0		
Lenton, F. J. (Stamford)	1 1 0		
Lloyd, B. M. (Birmingham) (2 years)	2 2 0		
Lord, G. W. (Sudan)	1 1 0		
Lovegrove, G. H. (London)	1 1 0		
Ludlow, G. W. (London)	1 1 0		
Marchant, F. O. (Hankow)	2 2 0		
Marshall, A. (Otley)	3 3 0		
Martin-Kaye, H. W. (London)	1 1 0		3 3 0
Martyn, L. D. (Hongkong)	1 1 0		
Mathews, Maj. H. E. (Derby)	1 1 0		
Maut, F. G. (London)			1 1 0
Mayston, A. R. (London)	1 1 0		
McDonald, J. S. (London)	1 1 0		
McIntosh, D. G (Liverpool)	1 1 0		
McLachlan, C. (London)	1 1 0		
Moore, L. T.	1 1 0		
Mouchel, L. G., & Partners (London)	2 2 0		
Moulding, L. G. (London)			1 1 0
Moxham, G. (London)	1 1 0		



THE NEW PARADE CINEMA THEATRE, MEADOWPARK STREET, GLASGOW.
D. McKAY STODDART, Licentiate R.I.B.A., ARCHITECT.
(See page 599.)

Current Architecture. 81.—The New Parade Cinema Theatre, Meadowpark Street, Glasgow: View of Interior

D. McKay Stoddart, Licentiate R.I.B.A., Architect

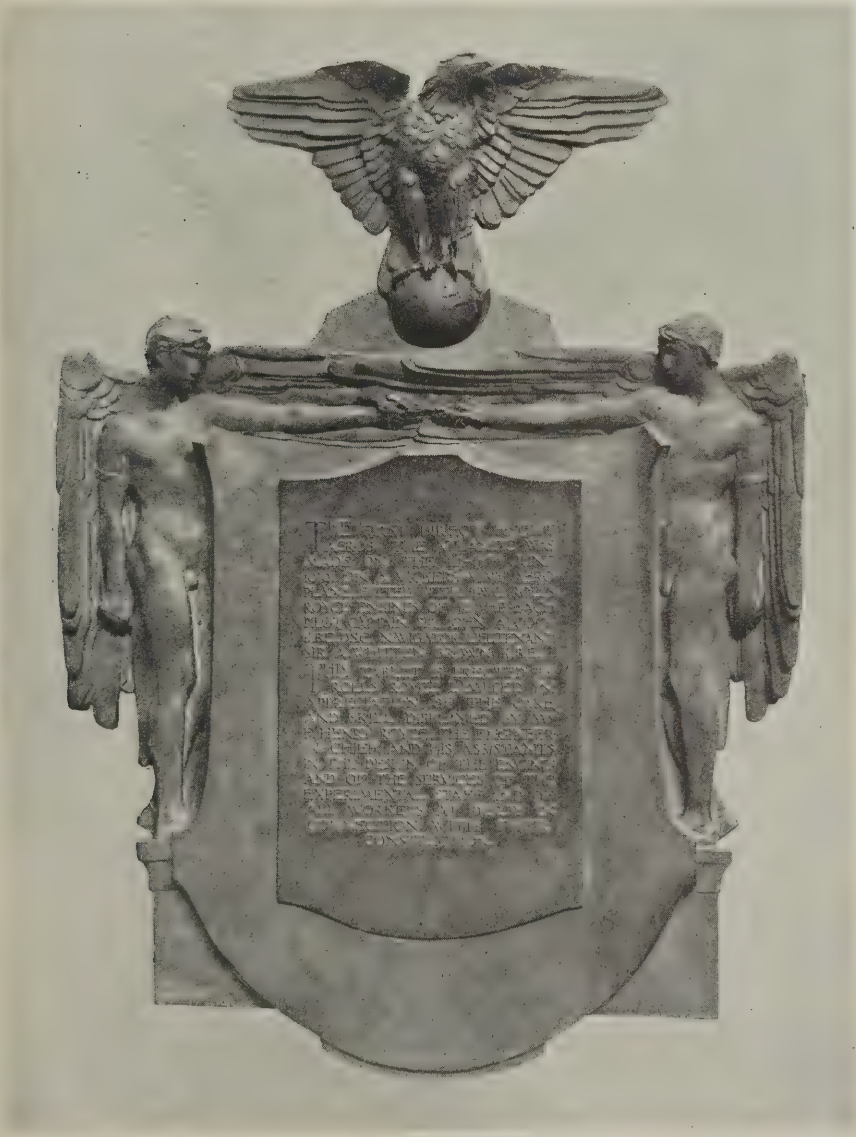


The New Parade Cinema Theatre is an example of simple and direct planning and restrained architectural treatment. The building provides seating accommodation for 1053 persons—786 in the area and 267 in the gallery. Plans of the building are reproduced on the double-page plate.

Name.	New subs. £ s. d.	Increased subs. £ s. d.	Donations. £ s. d.
Nicholls, W. H. (Madras)	1 1 0		
Northampton Assoc. of Architects			5 5 0
Oatley & Lawrence (Bristol)	3 3 0		
Page, G. M. (Haslemere)	1 1 0		
Palser, E. (London)	1 1 0		
Parker, E. Hadden (London)	1 1 0		
Paton, W. M. (Dublin)			1 1 0
Perkins, H. (Leeds)	1 1 0		
Pott, W. (Belmont)	1 1 0		
Price, F. G. (Stamford Brook)			0 10 0
Read, W. S. (Shanghai)	3 3 0		
Redpath, Brown & Co. (Edinburgh)			50 0 0
Rees & Holt, Messrs. (Liverpool)	2 2 0		
Reynolds, F. S. (Hankow)	2 2 0		
Richley, N. (Durham)	1 1 0		
Roome, W. J. W. (Greenisland, Antrim)	1 1 0		
Ross, W. A. (Bradford)	1 1 0		
Roumieu, R. St. A. (London)			3 3 0
Russell, R. T. (Delhi)	2 2 0		
Rushton, T. G. (London)	1 1 0		
Sage, E. (Brighton)	1 1 0		
Sanjana, N. J. (Bombay)	2 2 0		
Scott, J. (St. Andrews)	2 2 0		
Simpson, G. M. (Brighton)	1 1 0		
Smith, J. O. (London)		1 1 0	
Stewardson, R. E. (Shanghai) (2 years)	4 4 0		
Stucki, W. H. (Johannesburg)	2 2 0		
Taraporewella, V. A. (Bombay)	1 1 0		
Tasker, R. (London)	1 1 0		
Teather, G. A. (Sheffield)	1 1 0		
Thomas & Jones, Messrs. (Swansea)	2 2 0		
Thorp, J. B. (London)	2 2 0		
Tilden, P. (London)			5 5 0
Travers, W. (Edgbaston)			5 5 0
Tubbs, G. B. (London)	0 10 6		
Tylers & Bricklayers (London)			5 5 0
Tyrwhitt, T. (London)	1 1 0		
Underhill, C. F. (Burton-on-Trent)	1 1 0		
Walker, W. (St. Andrews)	1 1 0		
Wapshott, F. E. (London)	1 1 0		
Ward, B. M. (Yokohama)	2 10 0		50 0 0
Ward, M. S. (London)	1 1 0		
Ward, W. H. (London)		2 2 0	
Wellman, E. J. (Johannesburg)	1 1 0		
Wilkinson, L. (Sydney)	1 1 0		
Wills, H. W. (London)			1 1 0
Wilson, Capt. F. (Abbottabad)	1 1 0		
Wittet, G. (Bombay)	1 1 0		
Woodhouse, F. P. M. (London)	1 1 0		
Worthington, C. E. (London)	1 1 0		

A Commemorative Tablet

The tablet illustrated on this page has been designed and modelled by Mr. W. Reid-Dick, A.R.A., for the Rolls-Royce Company, Ltd., in commemoration of the first direct flight across the Atlantic. It has been cast in bronze by Messrs. J. W. Singer and Sons, Ltd., of Frome. The overall sizes are 4 ft. 2 in. high by 3 ft. 1½ in. wide.



BRONZE TABLET FOR THE ROLLS-ROYCE CO., LTD., COMMEMORATING THE ATLANTIC FLIGHT. DESIGNED AND MODELLED BY W. REID-DICK, A.R.A.

High Cost of Building in Scotland

At the Government Committee of Inquiry into the high cost of building working-class dwellings in Scotland, Mr. W. E. Whyte stated that the building of houses in Lanarkshire in brick was revolutionary. Lanark was a stone county and there were a large number of quarries, some of which had been closed and some of which were carrying on in a precarious condition. The Board of Health were prepared to allow building in stone so long as the stone construction did not work out at £50 more than brick construction, but so far his local authority (Lanark) had been unable to obtain tenders within this limit. Mr. Archibald Johnston, Glasgow, cement merchant, said he understood that there would be a reduction very shortly which might amount to more than 20s. a ton. The proposed reduction was on account of the reduction of wages, fuel, freight, etc. Mr. George R. Toynbee, builder, stated that on an average bricklayers laid between 450 and 500 bricks per day, and he had many examples of greater output. On the whole, while the average output is less than it was before the war, there was little room for complaint against bricklayers.

A Glasgow Cinema

The New Parade Cinema, Meadowpark Street, Glasgow, which was opened a few weeks ago by the Lord Provost of Glasgow, is situated about two miles from the centre of the town. It has seating accommodation for 1,053 persons—786 in area and 267 in gallery. A simple treatment in the renaissance manner has been the principal aim in designing this work, with a certain French influence in the interior. The main elevation to Meadowpark Street is built of red sandstone with panels of brick and rough cast. The main contractors for mason work and brick work were: Messrs. Brown, Fraser, and Co.; joiner work, Mr. Andrew Wilson; plumber work and heating, Messrs. Hugh Twaddle and Son; plaster work, Messrs. Geo. Rome and Co.; steelwork of roof and balcony, Messrs. Redpath Brown and Co., electric lighting and cinema plant, Messrs. Wm. Chalmers and Co., all these contractors being Glasgow firms. The managing directors are Mr. Baillie James Welsh and Councillor Geo. Smith. The architect was Mr. D. McKay Stoddart, who was lately made a partner with Mr. A. H. Paterson, M.A., A.R.S.A., F.R.I.B.A., R.S.W., the well-known Glasgow architect.

R.I.B.A. Annual Dinner, Etc., Postponed

In consequence of the industrial situation, it has been necessary to postpone until a date which will be announced later the annual dinner of the Royal Institute of British Architects and the Conference of the Franco-British Union of Architects.

Construction. 18.—A Model Textile Factory

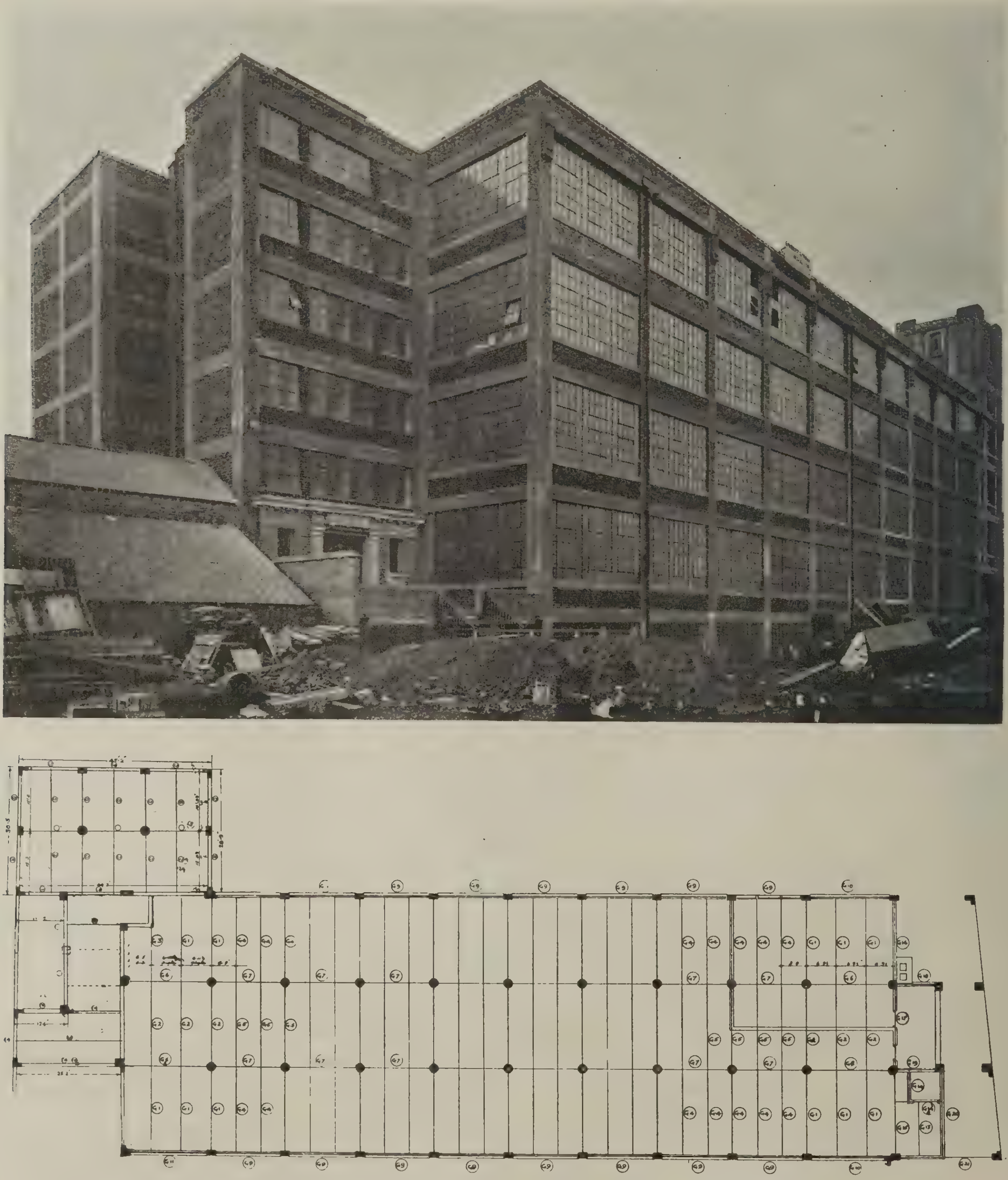
THE building shown in the accompanying illustrations is the first complete unit of the works eventually to be erected by Messrs. Wm. Hollins and Co., for the manufacture of garments for day and night wear of the several registered materials—Viyella, Aya, and Clydella, etc.

As absolute fireproofness and resistance to vibration are two main essentials in a factory of this kind, the architects, Messrs. Ernest R. Sutton and Son, of Nottingham, decided to employ reinforced concrete, and after thorough investigation, including a tour of inspection over the immense new factories of the Birmingham Small Arms Co., they decided on the Kahn system of construction, and instructed the Trussed Concrete Steel Co., Ltd., to prepare the detail drawings and supply the necessary reinforcing steel.

The overall dimensions of the building are 230 ft. by 90 ft. There are fireproof staircases of concrete at each end of the building, spacious and easy rising, while use has been made of mezzanine floors to provide ample lavatory accommodation.

The building is five storeys in height, including the basement, the heights of the various storeys being: Basement, 12 ft.; ground, first and second floors, 14 ft.; and third floor, 13 ft. The tower, in which is placed the sprinkler tank, reaches a total height of 90 ft. above ground.

As the bases of the columns attain a depth of 12 ft. below the level of the adjoining canal, while the basement floor itself is 3 ft. below water line, special precautions had to be taken to keep water out of the building, and therefore the floor is laid in two thicknesses of concrete,



TEXTILE FACTORY FOR MESSRS. WM. HOLLINS AND CO., NOTTINGHAM.
ERNEST R. SUTTON AND SON, ARCHITECTS.

reinforced with expanded metal, having a double course of Val-de-Travers asphalte between.

The walls are treated in a similar manner to the height of 3 ft.

At one end of the basement, which is very lofty and well-lighted, is situated the heating apparatus, consisting of two large boilers to supply the low-pressure hot water installation, while room is also found for a cycle-store (under the main entrance) which will be moved eventually to a position in the building about to be erected on the front portion of the site.

There are sixty-five columns in all, 78 ft. high from foundation base to roof, those at the angles of the tower being carried up a further 28 ft.

The internal columns are octagonal and measure 23 in. in diameter at basement level to 10 in. in diameter on the third floor, where they merely support the roof.

The external piers were made 24 in. in width to present a sufficiently substantial appearance in the exterior elevation, but they diminish in thickness from 15 in. in the basement to 10 in. on the top floor. The angle columns are 24 in. on each face, but of similar thickness or depth of reveal. For the construction of the fireproof floors Hy-rib is used.

The whole of the building has been designed to carry a superimposed load of 1½ cwt. per super foot of floor area.

The main beams divide the building into bays of 20 ft., and are 20 in. by 8 in. reinforced with Kahn rib bars, while the secondary beams, 18 in. by 5 in., are spaced at 5 ft. 9 in. centres, thus allowing the medium gauge Hy-rib to be used with a floor slab of the economical thickness of 4 in.

In the bottom of all beam boxes and between the reinforcing steel were placed at 6 ft. centres patent Rigifix bolt hanger sockets (supplied by Building Products, Ltd.), to which, when the boxes are removed, all required shafting, heating pipes, overhead motors, etc., can be readily secured. It will be noticed, however, that there is an entire absence of overhead drives or belting, etc., throughout this model factory; the bolt hanger sockets in this instance being used for the sprinkler and heating pipes. Holes were also left truly aligned in the beams so that the installation of the sprinkler system and electric conduits was greatly simplified.

The floors throughout, except the basement, are finished with 9 in. by 3 in. maple blocks, neatly trimmed round the bases of the electric power units, of which there is one to each work bench and line of sewing machines.

The contractors were Messrs. Gilbert and Hall, of Wharf Road, Castle Boulevard, Nottingham.

Enquiries Answered

Rust in Hot Water Supply.

T. G. J. writes: "A new hot-water supply system has recently been installed in a private residence in North Wales comprising the following units: (1) Wrought-iron independent boiler in stokehole, (2) primary flow and return pipes, (3) 100-gallon galvanised iron storage tank, (4) secondary circulation from last, (5) separate flow and return connection between range boiler and storage tank to work alone or in conjunction with independent boiler, (6) three baths, four lavatory basins, three sinks, towel airers, (7) double row of 1-in. tubing round four walls of a drying-room, (8) all pipe work specified to be the best quality water tubing, (9) continuous water supply is derived from a mountain stream.

"In the above system the supply of hot water at the various points is satisfactory, but serious trouble is being experienced owing to the delivery of hot water at one bath being of a deep rust colour, which leaves a heavy deposit. The said bath is at the head of the system on a long 1-in. branch circulation. A basin adjoining is similarly affected in a somewhat less degree, but at all other hot-water draw off taps the delivery is practically clear. Large quantities of hot water have been drawn off in the above bath at one time with a view to improvement, but no water approaching the clearness of delivery at other points has ever been obtained.

"The hot-water engineers suggest that the trouble is due to the chemical composition of the water, but if this is the sole cause it would seem that the discolouration must be general at all points. They suggest that a plant for chemical treatment of the water should be installed. This would presumably involve considerable cost, to which the owner objects.

TEXTILE FACTORY FOR WILLIAM HOLLINS AND COMPANY, NOTTINGHAM: VIEW ON SECOND FLOOR.

"An earlier hot-water system was removed prior to new installation, and certain sections of old tubing may have been re-used, although no evidence has been disclosed. Observations are requested with a view to location of cause and cure necessary."

—The description of the hot-water supply should have been accompanied by a drawing showing the parts affected. The probability is that the long 1-in. branch is composed of old pipes that have got thickly coated with rust on the inside, and that the difficulty will gradually cease. If the trouble were due to the chemical condition of the water it would hardly be likely to occur at one place only. If this branch could be isolated and treated internally with a weak solution of sulphuric acid, possibly the rust could be dissolved out with the formation of hydrogen gas without damaging the solid iron, but this is a chemical remedy which the writer hardly feels competent to advise upon. Perhaps the safer way would be to put in new pipes.

HENRY ADAMS.

Whitewash for Cement Face.

V. H. writes: "The two main frontage walls of a house which are most exposed to the weather were cemented over some years ago with a smooth hard face and a pink colour mixed in. The other walls and those of the outbuildings have their original harled surface. Last year I limewhited the whole. On the harling it was successful, but on the cement the whiting soon washed away. Could you inform me how to make it stick to the cement surface? Is it better to apply it on a hot or damp day? Also, would it be possible without chipping the cement surface—which has its value from the weatherproof point of view—to apply a thin harling which would adhere?"

—The following recipe was given in the "Engineering Record" of New York as the best method of preparing and using whitewash for the surface of concrete work, and it should be equally good for cement rendering exposed to the weather. Slake half a bushel of unslaked lime with boiling water, keeping it covered during the process. Strain it and add a peck of salt, dissolved in warm water; three pounds of ground rice put in boiling water, and boiled to a thin paste; half a pound of powdered Spanish whiting and a pound of clear glue, dissolved in warm water; mix these well together and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace, and when used put it on as hot as possible with painter's or whitewash brushes.

HENRY ADAMS.

Cinema Theatres and Restaurants.

CORRESPONDENT writes: "Will you please give me the following information with regard to cinemas, etc.?

"(1) The present day approximate cost per cube foot of a cinema and restaurant constructed of steel and concrete.

"(2) The names and addresses of makers of cinema lanterns, etc.

"(3) Is it a success to have the machine throwing the picture on to the back of the screen from the stage side instead of the auditorium side?

"(4) Does the above require a special curtain to prevent the direct rays of the lantern from penetrating the screen and being objectionable to the audience?

"(5) Is 30 ft. sufficient throw for a lantern placed as above?"

—(1) The price per cubic foot for cinemas and restaurants constructed of steel and concrete is extremely difficult to fix because it depends to such a great extent upon whether the finishings are elaborate or the reverse; and with regard to cinemas, the proportion of height to length and breadth. An approximate cost per cubic foot for the cinema would be about 2s. 6d. and about 3s. to 3s. 6d. for the restaurant.

(2) A. Kershaw and Son, Ltd., Harehills Lane, Leeds, and the Simplex Projector, Frank Brookliss, Wardour Street, London, W.

(3) Yes, it is a success, but expensive owing to the waste of room (unless a big stage is required for other purposes), because to obtain a satisfactory result, say on a 22 ft. screen, it is necessary for the projectors to be about 40 ft. away from the screen; a smaller screen would, of course, require a less distance in proportion to its size.

(4) Yes. A special screen should be used. Full particulars and quotations could be obtained from any of the well-known makers, such as the Beck Cinematograph Manufacturing Co., Beck House, 91 Shaftesbury Avenue, W.1.

(5) It depends entirely upon the focal angle of the lens, which is regulated by the size of the required picture and the distance of the screen from the projector. See answer No. 3. W. S. B.

Cost of Cinema.

"FILM" writes: "Can you give me the present-day cost per cubic foot of an up-to-date cinema with two brick and terra-cotta frontages (as contrasting with those having an entrance only to main street and plain work behind)? Also the average cost per seat, if possible?"

—The approximate addition to the cost per cubic foot for a cinema having a frontage, crush hall, etc., at both ends would be between 2s. and 3s. per foot cube, according to the character of the design. The average cost of cinemas at the present day per seat works out at about £40, or about 2s. 6d. per cubic foot. W. S. B.

Institution of Civil Engineers

The Council of the Institution of Civil Engineers have made the following awards for papers read and discussed during the session 1920-1921:

A Telford Gold Medal and Telford Premium, Mr. George Ellson, O.B.E. (London).

Telford Gold Medals, Sir Murdoch MacDonald, K.C.M.G., C.B. (Cairo), and Mr. T. E. Stanton, C.B.E., D.Sc., F.R.S. (Teddington).

George Stephenson Gold Medal, Mr. R. G. O. Batson (Teddington).

Watt Gold Medal, Mr. S. A. Main, B.Sc. (Sheffield).

Telford Premiums, Messrs. Algernon Peake (Sydney, N.S.W.), L. H. Larmuth (London), and H. E. Hurst, M.A., B.Sc. (Cairo), Professor T. B. Abell, O.B.E., M.Eng. (Liverpool), and Mr. Percy Allan (Sydney), N.S.W.

The Council further record their appreciation of the paper contributed (jointly with Mr. Main) by Sir Robert A. Hadfield, Bart., F.R.S., a member of the Council.

Overcrossing at Street Intersections

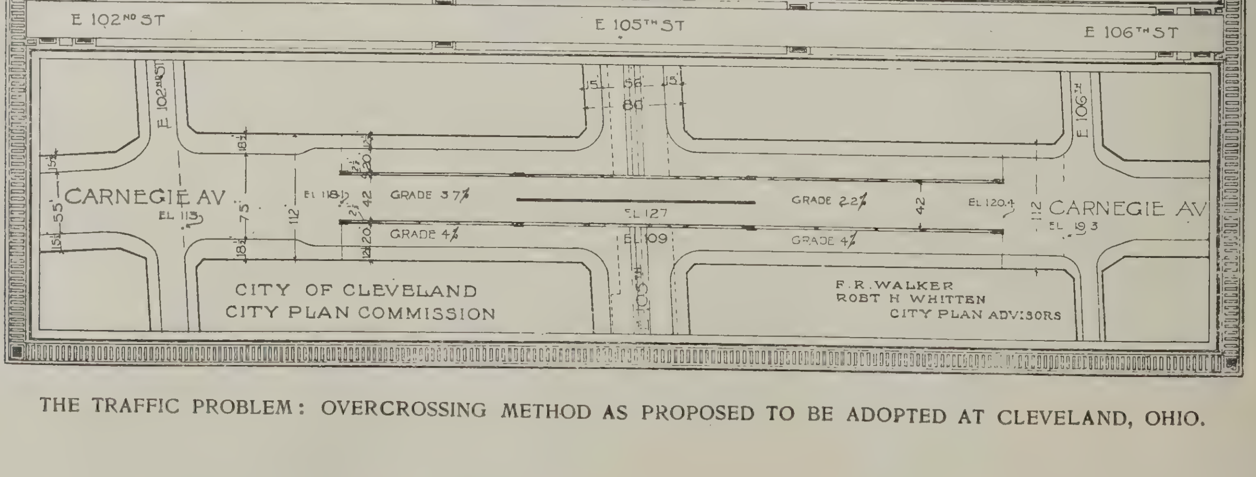
In the new thoroughfare plan for the city of Cleveland, U.S.A., prepared by Messrs. Robert H. Whitten and Frank R. Walker, advisers to the City Plan Commission, provision is made for three overcrossings similar in design to that illustrated below. A separation of grades is comparatively simple if provided for at the time the streets are laid out.

In the case of a busy intersection, however, a complete separation of the grades is impracticable owing to the fact that freedom of interchange of traffic between the two intersecting streets must be retained. The intersecting routes cannot be completely separated, as in the case of a steam railroad and a highway; the most that can be done is to carry the through traffic over or under the intersection, as shown in the accompanying illustration. Even then the intersection itself will still be complicated by the pedestrian and the interchange traffic of both streets.

The complete thoroughfare plan is intended to constitute a fairly complete system of traffic arteries for the area within the present limits of the city, and only about one-quarter of the 970 miles of streets in Cleveland is included. The scheme is intended as a twenty-year improvement programme, and provides for the widening of ninety-eight thoroughfares, thirty-seven street extensions, and four new central bridges.

Houses for the Working-Classes

The National Housing and Town-Planning Council, in the course of their weekly record, issued on behalf of the Housing Committee of local authorities, state that the Dean of St. Paul's has rendered a real service in challenging the general assumption that a house should be regarded as fit even though it has been built for centuries. Whilst it is true that some of the houses which princely merchants built for their families in Jacobean and Georgian times are (when equipped with new sanitary systems) as good as any houses we build to-day, it is equally true to state that the millions of working-class dwellings built between 1750 and 1875 (when the great Public Health Act was passed) are of a wretchedly poor kind. The average cost of construction was much less than £100, and as they were, for the greater part, built before the days of modern sanitation and sewerage systems, the areas on which they stand are sewage soaked.

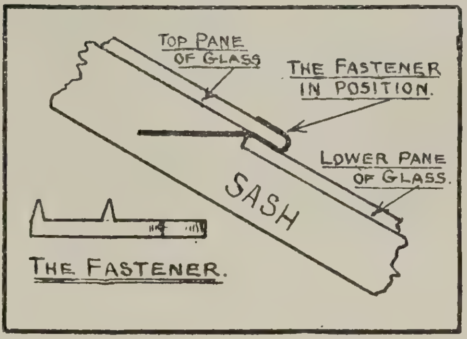


THE TRAFFIC PROBLEM: OVERCROSSING METHOD AS PROPOSED TO BE ADOPTED AT CLEVELAND, OHIO.

Trade and Craft

An Ingenious Glass Fastener.

The accompanying illustration shows the New Paragon glass fastener, an ingenious device for firmly fastening in a cheap, simple, and effective manner the panes of glass in new as well as old glass-houses. To fix the fastener, all that is necessary is to slide it in between two panes of glass where they lap until the lower edge of the upper pane rests in the hook, and the spikes in the fastener are then driven into the side of the sashbar inside the glasshouse or frame. Sufficient spring or give is allowed in the fastener to prevent the cracking of the glass from vibration. The fastener, which is made of brass, may be obtained from all sundriesmen or direct from the manufacturers, Messrs. Furness and Richardson, 61 Tweedy Road, Bromley, Kent.



NEW PARAGON GLASS FASTENER FOR GLASSHOUSES.

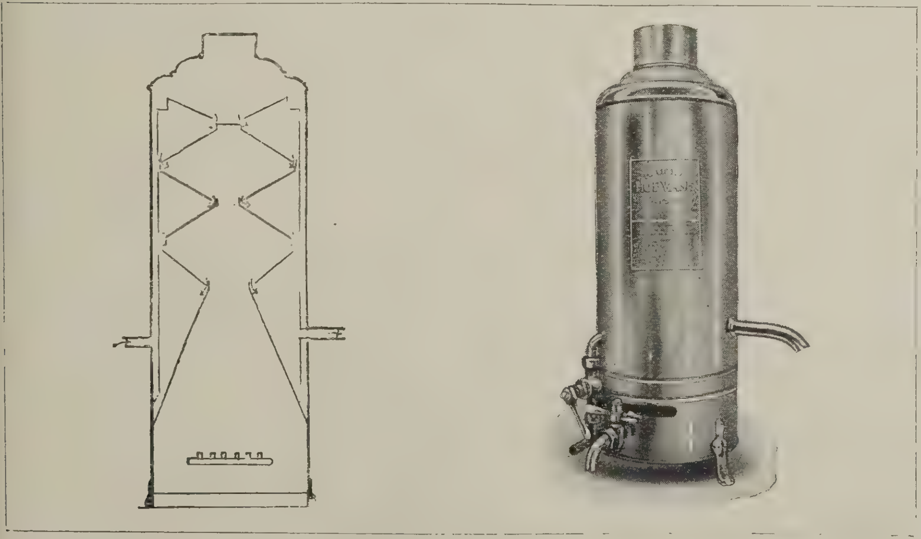
"*Victor*" *Boilers.*

Mr. Thomas Potterton, of Cavendish Works, Ravenswood Road, Balham, London, S.W.12, heating engineer and specialist, has sent us an advance copy of an interesting and profusely illustrated booklet dealing with the "Victor" gas-heated apparatus for hot-water supply and heating. The publicity given by the various gas undertakings to this branch of domestic engineering renders it unnecessary to enumerate at length the many uses to which gas appliances generally are put, but it may be stated that besides supplying hot water for all household requirements, "Victor" boilers are now largely used for trade purposes. "Victor" gas boilers are ordinarily manufactured of cast-iron, this being best suited to the work in districts served with water of average temporary hardness, as in London and the South of England generally; but for the provinces, where lime is absent, it is necessary to treat boilers with a rustless process, using therewith copper storage and pipes, in order to prevent the discoloration of the supply, due to the solvent action (or rusting effect) that soft water has upon ordinary forms of cast and wrought iron. Besides their connection with domestic hot-water supply, "Victor" gas boilers are suitable for various other purposes: those of warming rooms, offices, garages, etc., being the most common. This is effected by low-pressure hot-water circulation with radiators or pipes, and, particularly in cases where special requirements have to be fulfilled, their regularity and certainty of action, assisted by the firm's new system of air-thermostatic control, is claimed to render gas-heating successful where circumstances may be unfavourable to the use of solid fuel. The booklet is full of technical data and other useful information. Copies of the booklet may be obtained on application to Cavendish Works, Ravenswood Road, Balham, London, S.W.12.

Mitchell's "Hot-Wash" Geyser.

The accompanying illustrations show an exterior and a sectional view of Mitchell's "Hot-Wash" Geyser, which is claimed to raise the temperature of a gallon of water to 55 deg. Fahr. in twenty-five seconds, to 65 deg. Fahr. in thirty-two seconds, and to 96 deg. in fifty-six seconds. This geyser, which was exhibited at the Building Exhibition, is made throughout of 24 SWG. copper, with a heavily-tinned interior, brass interlocking gas and water taps, gas ring, condensation trough, and three brass feet. The geyser measures 2 ft. 7 in. by 10½ in., is fitted with a half-inch gas supply and consumes 5 cu. ft. in two minutes forty-two seconds.

The gas ring is fitted with thirty-seven No. 1 Bray burners. When running at two gallons per minute, the temperature at the top of the geyser is approximately 180 deg. Fahr., thus showing that the heat is baffled down or used up to a minimum. The distributing agents for the geyser are Messrs. Graham, Miller and Company, Ltd., of 30 Wilson Street, Finsbury, E.C.2.



SECTION AND EXTERIOR VIEW OF MITCHELL'S "HOT-WASH" GEYSER.

Solignum and Internal Joinery.

We have received the following letter from Messrs. Major and Co., Ltd.:

SIRS,—We notice under the heading "Enquiries Answered" on page 487 of your issue for April 20 that, in replying to "Crafts," you couple Solignum with ordinary creosote, and advise your correspondent that the latter could be used for staining internal joinery work.

We have found that even a good creosote has the effect on planed wood of contracting the softer fibres and thus raising the grain, and further, there are so many different qualities of creosote that although instances of success might be come across, it is an article that is totally unfit for internal decorative purposes.

From a considerable experience of housing schemes we should like to suggest to your correspondent that after Solignum has been applied and is apparently dry the surface should be briskly rubbed down with dry cloths. This imparts a semi-gloss and leaves the woodwork ready for the tenant to wax polish if he so desires.

We have yet to come across a housing scheme where the Ministry of Health will sanction the expenditure on wax polishing woodwork, but we can say that Solignum finished as above has given unqualified satisfaction.

(For Major and Co., Ltd.)
F. H. HALL,
Manager of Department.

Bell's United Asbestos Company, Ltd.

According to the report of Messrs. Bell's United Asbestos Company, Ltd., for the year ended December 31, 1920, the result of the year's operations is a net profit of £64,670 8s. 3d., to which has to be added the amount brought forward, £26,046 0s. 4d., which makes a total of £90,716 8s. 7d. After deducting interim dividends paid, £12,777 9s. 6d., this leaves for appropriation £77,938 19s. 1d. Deducting from this the sum of £1,800 for balance of dividend at the rate of 6 per cent. per annum due on the cumulative preference shares to December 31, 1920 (paid on February 1 last), there remains £76,138 19s. 1d. The directors recommend: (1) The payment of a dividend on the ordinary shares of 1s. 6d. per share, which with the interim dividend paid, makes a total distribution at the rate of 12½ per cent. for the year; (2) that the sum of £20,000 be placed to depreciation reserve; and (3) that £34,124 1s. 1d. be carried forward. A substantial sum has been reserved from profits towards prospective liabilities for Imperial taxes. It was not possible to complete the extensions at Harefield in connection with the manufacture of the new "Hurcan" building slabs in time to take advantage of the demand last year, but the works are now in operation. Although the financial position of the company is quite satisfactory, the outlook is so uncertain that the directors do not, on the present occasion, feel justified in recommending the payment of a bonus in addition to the usual dividend of 12½ per cent. for the year.

The Week's News

St. Pancras Housing.

St. Pancras Council is borrowing £150,000 for the erection of maisonettes and flats.

Paignton Housing.

The Council has acquired sites for eight houses at Preston, and four are to be put up in the village of Collaton.

Sea Defence Works at Blue Anchor.

Somerset County Council has applied for sanction to borrow £25,000 for sea defence works at Blue Anchor.

York Exhibition Buildings.

York Corporation has decided to carry out alterations to the exhibition buildings at a total cost of nearly £6,000.

South Molton Housing Scheme.

The R.D.C. has decided to ask the Ministry to sanction a loan for a scheme for the Bishop's Nympton water supply.

A Road-paving Experiment.

Road-paving with layers of cement holding star-shaped pieces of iron, which has been tried at Lyons, is said to be a great success.

Housing at Cirencester.

The R.D.C. has decided to build eight houses at North Cerney, six at Coates, two at Poole Keynes, and four at Rodmarton.

Professional Announcement.

Mr. O. D. Black, architect and surveyor, has resumed practice at No. 64 Rodney Street, Liverpool. Telephone: Royal 3334.

Change of Address.

Messrs. Hukins and Mayell, architects and surveyors, have moved to St. James House, 73 Holland Park Avenue, W.11. Telephone: Park 3705.

Luxury Building.

Existing restrictions on luxury building are about to be relaxed in order that building operations may be encouraged to relieve unemployment.

Worshipful Company of Ironmongers.

The Worshipful Company of Ironmongers have appointed Mr. Sydney Tatchell, F.R.I.B.A. (of the firm of Messrs. Bourchier, Tatchell, and Galsworthy), as their surveyor.

Woollen Mills for Victoria.

The Industrial Committee of Victoria, B.C., is taking up the matter of providing a site for woollen mills for a large British firm of manufacturers. The proposed plant will cost about 500,000 dols.

Winter Garden for Hackney.

Hackney Borough Council are supporting an application for permission to construct a commodious winter garden, with kinema attached, in Mare-Street, and adjoining Devonshire Road.

Housing at Hitchin.

The R.D.C. has decided to invite tenders for ten houses at Codicote, revised plans for which have been submitted and approved. An extension of the Ickleford sewer is to be made at a cost of £460.

Manchester Housing.

A contract has been let by the Corporation to a Barrow firm for the erection of 300 houses, and the contract with the Building Guild has been extended by 100 houses, subject to the approval of the Ministry.

New Buildings at Aberdeen.

Plans are proposed to be passed for a tennis court pavilion off the north side of Mile End Place for the Bankers' Tennis Club, and for four huts in connection with the barracks on the north side of Fonthill Road for the Aberdeen Territorial Force Association.

Golcar Housing.

The Ministry of Health has signified its approval to the Leymoor site and the lay-out plans. The Ministry has also approved the building plans of sixteen houses at Leymoor Road, and authorised the Council to accept the tenders, amounting to £11,054.

Bainton War Memorials.

The Archbishop of York has unveiled and dedicated a beautiful churchyard cross at Bainton, in the East Riding of Yorkshire. The cross has been erected from a design by Sir Charles Nicholson, Bart. It is some 18 ft. high and built of Clipstone stone.

War Memorials at Huddersfield.

Two memorials, both designed by Sir Chas. Nicholson, and executed by Messrs. E. Bowman and Sons, have been dedicated at S. Thomas' Church. One is a churchyard cross of hard Clipstone stone and the other a rood beam, on which is reared a great floriated cross.

Work of M. Girault.

A collection of photographs illustrating the work of M. Charles L. Girault, of Paris, Royal Gold Medallist, 1920, is now being exhibited in the Galleries of the Royal Institute, 9, Conduit Street, W. The Exhibition is open to the public.

Housing in Scotland.

The following figures show the progress of State-aided housing schemes in Scotland: Permanent houses completed, 1,344; temporary houses completed, 403; and reconstructed houses, 59; making a total of 1,806. There are, in addition, 10,723 houses under construction.

Lady Poynter as Decorator.

Lady Poynter, wife of Sir Ambrose Poynter, the architect, after having trained for two years at a well-known West-End firm, is starting in business as a house decorator. Accommodation has been provided for her at the Merchant Adventurers "Shop," Beauchamp Place.

Building Trade Wages.

The National Wages and Conditions Council for the building trade, which was appointed a few months ago, is holding further meetings for the consideration of a number of knotty points outstanding between the employers and operatives in relation to wages, notices, and hours in the industry.

Whickham Church Council's Scheme.

The Whickham Church Council have recently acquired all the buildings situated in the church chare, and at a meeting of the Finance Committee it was agreed to recommend the adoption of plans for a large church hall, a smaller hall, and cloak rooms, etc. The large hall will be mainly used for cinema shows.

The Late Professor Scott.

We regret to announce the death of Professor William Alphonsus Scott, R.H.A., A.R.I.B.A., who had held the Chair of Architecture in the University College, Dublin, since its inception. He specialised in church architecture, and many monuments remain to his artistic skill in this branch of the profession, notably Spiddal Church, Co. Galway, and a number of new ecclesiastical buildings in the diocese of Clogher, as well as many public buildings throughout Ireland.

Durham and Proposed Brick Substitutes.

The Durham R.D.C. are considering the question of substituting some form of concrete construction for bricks in the housing schemes. The brickyards are overloaded with orders, and by substituting concrete for bricks the Council would assist in reducing the demand.

Stoke-on-Trent Improvements.

The Finance Committee recommend that application be made to the Ministry of Health for sanction to borrow £6,023 for the equipment of the Cookshill Hall small holdings, and £12,000 for the conversion of the level tanks at the Hanley sewage works into aeration tanks. £1,950 for excavation work in connection with the extension of Warren Street, Longton, is also required.

Colour Scheme for Workmen's Houses.

Colour ideas are a dominant feature of the Manchester scheme for providing working-class tenants with houses which have beautiful interiors as well as artistic exteriors. The choice of suitable furniture is being placed in charge of a sub-committee of the Design and Arts Industries Association. The interior of the cottages will be planned more or less on the formula of a French physician.

Darton Housing Scheme.

Plans have been approved by the Ministry of Health for 135 houses on the approved site of 11½ acres. Contracts for the formation of streets and lay-out and for thirty-eight of the type "A" houses have been let, and tenders for the remaining ninety-seven houses are now being asked for, and will shortly be submitted for the consideration of the Council and the Ministry of Health.

The First Atelier of Architecture.

This Atelier is one of the Royal Academy Ateliers, and membership of it confers a distinction which is valued by those who are acquainted with the qualification of the patron, who regulates admission. There are at present a few vacancies, and those who desire further information should apply, preferably personally, to the Patron, M. Chaures, at the Atelier, or to the hon. secretary, at 28 Bedford Square, W.C.1.

Building Materials for Norway.

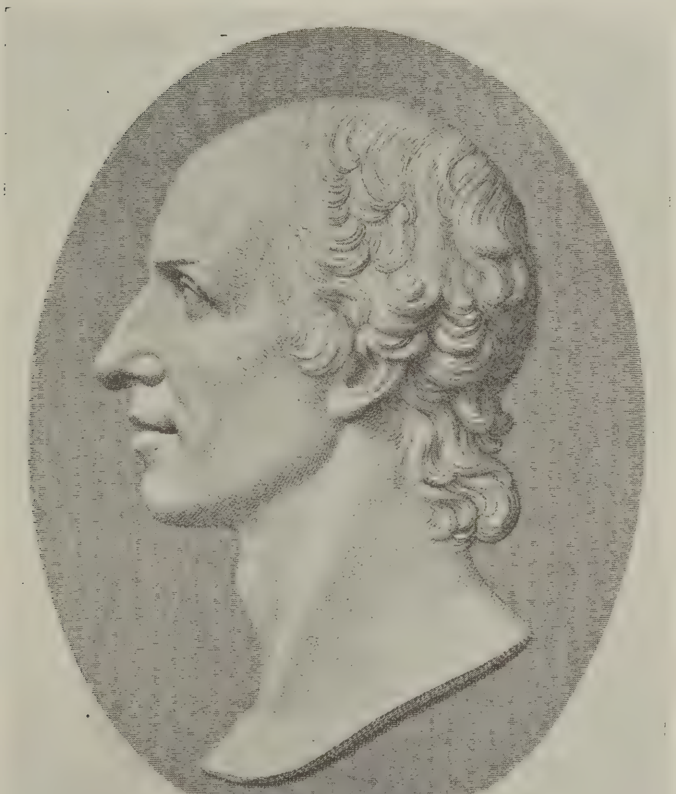
The office of the Commercial Secretary to His Majesty's Legation at Christiania has forwarded to the Department of Overseas Trade particulars of an enquiry for materials wanted in connection with building enterprise and repair of municipal property in Norway. The following list of materials has been furnished by the enquirers as an indication of the class of goods which will be required in large quantities, but it is not intended that it should be considered in any way exhaustive: Rolled steel girders, armouring iron, plumbers' requisites of all kinds, sanitary ware, cement, paint, oils, linoleum, etc. Further particulars may be obtained by United Kingdom firms on application to the Department of Overseas Trade (Development and Intelligence), 35 Old Queen Street, London, S.W.1.

Wednesday, May 18, 1921

Volume LIII. No. 1376

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



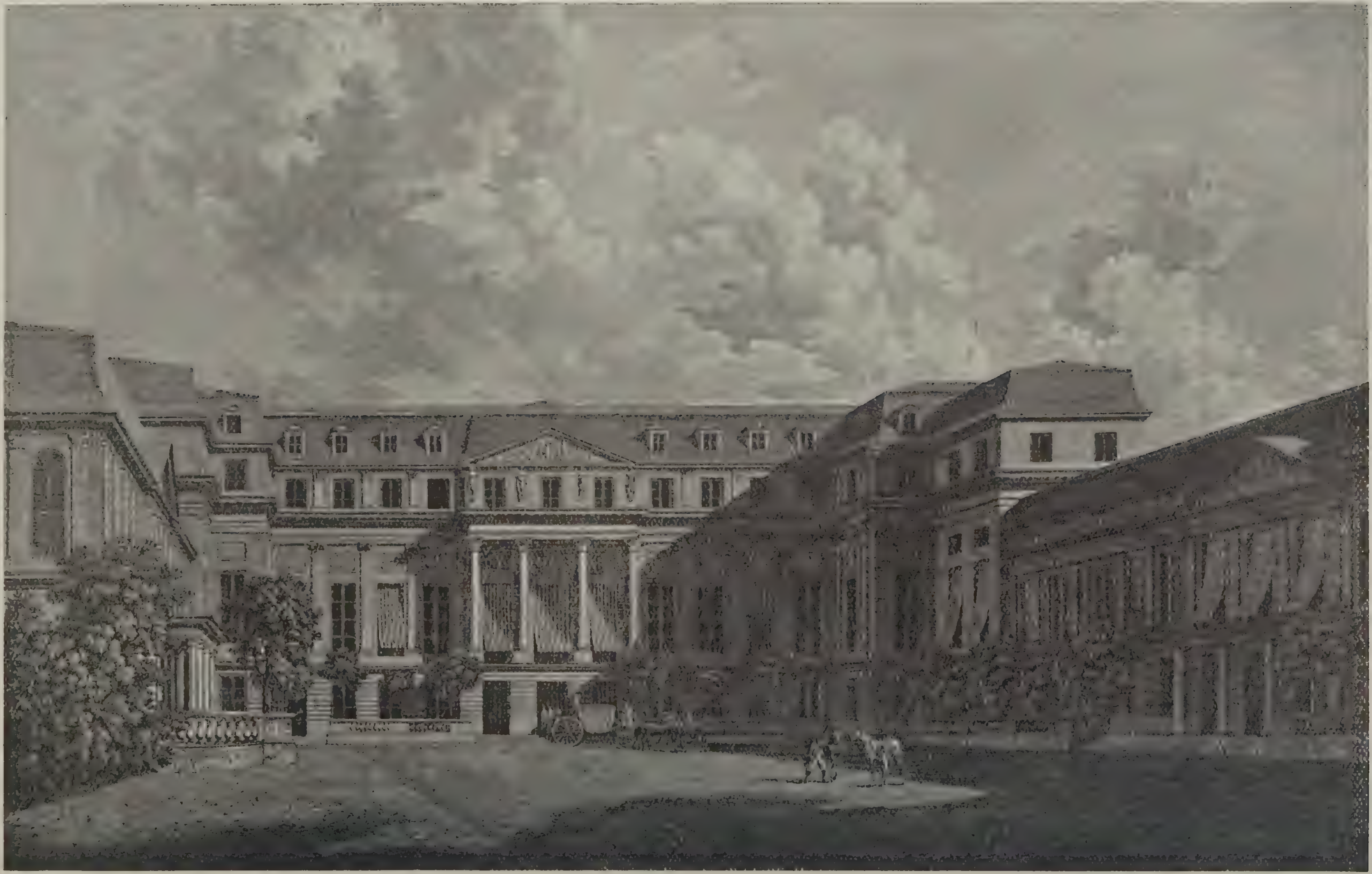
ANTONIO CANOVA (1757-1822).

Italian sculptor and painter. Born at Possagno, Treviso. At the age of 14 he entered the atelier of the sculptor Torretti, after whose death he studied under his nephew Ferrari and at the Venetian Academy. In 1780 he went to Rome and found his inspiration in classic sculpture. He exhibited in 1782, and won immediate fame. He carved a bust of Napoleon, and also executed many commissions for the Pope, on whose account he suffered exile during the revolution of 1798-1800. He was created Marquis of Ischia in 1816, died at Venice, and was buried at his birthplace. He finished his famous "Dædalus and Icarus," now in the Venetian Academy, at the age of 21, and his "Cupid and Psyche" is in the Louvre.

27-29 Tothill Street, Westminster, S.W. 1.

French Renaissance Architecture. 2.—The Château of St. Cloud

Le Pautre, Architect



It was in 1660 that the Château of St. Cloud was remodelled (as shown in the above reproduction from an early nineteenth-century engraving) for Louis XIV., from the designs of Le Pautre. The mansion remained in much the same condition until the war of 1870, when it was destroyed by fire while in the occupation of the Germans during the siege of Paris.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, May 18, 1921 Volume LIII. No. 1376

Notes and Comments

The Versatile Architect

IN the preamble to his paper on "The Utility of Research on Building Materials," which he recently read before the R.I.B.A., Mr. Alan E. Munby referred to the complexity of the architect's work. There is, he said, probably no calling which covers so wide a field; but here it must be demurred that in mere comprehensiveness engineering equals, if it does not exceed it. It is very true, however, that, as Mr. Munby said, "an architect is expected to be equally ready to test a drain as to design an altar-cloth, or to arrange for the installation of electrical plant as to create a modern façade." This claim, however, is matched by that of the engineer who said that the follower of his high and multifarious calling should be equally ready to hem a handkerchief as to build the Forth Bridge: or words to that effect.

Obviously these great professions overlap, not to say clash, at many points. It is not good for either that they should ever be in competition. That they may co-operate very profitably for art and for stability is evident from many instances in the United States, where the architect and the engineer (civil or otherwise) frequently combine to form a very useful firm, the one practitioner complementary to the other. At home, as "Unity of the Profession" seems likely to develop into Unity of the Professions, differences of type may be more conveniently accommodated than they are at this present. Under a broadly conceived system of Registration, it should be made comparatively easy for the youthful misfit member of one profession to be transferred to another that seems more suitable for him. It is not meant that the member of one profession should be allowed to practise the other cognate professions indifferently, practising now the one and then the other, as fancy or circumstances happen to prescribe. Such instability and inconstancy would defeat the chief object of Registration, which is to prevent a man from practising a profession for which he has not been specially trained, or to which he has not been duly admitted, and for which he may therefore be assumed to possess but a dubious qualification. What is meant is just this: A youth in the midst of his training as an architect becomes convinced that his taste and talents, and perhaps his opportunities, indicate that it would be prudent for him to seek fame and fortune as a civil engineer, or perhaps as a quantity surveyor. Or *vice versa*.

Transference from one profession to another should be made easy by simplifying the formalities and minimising the expenses. A free and frequent interchange of such prisoners of hope might balance fairly the trouble and expense between the respective professions; or a sort of clearing-house might be established to effect the necessary adjustments. If, after the erection of such machinery, and after due warning given, any architect were caught practising unwarrantably as a civil engineer or as a surveyor, or contrariwise, electrocution, painless but prompt, should legally ensue.

There should be, at all events, full facilities for the interchange of students. It would, in a way, favour versatility, a quality in which the architect shone brilliantly during the war, but which should not be left latent for war to develop. Transference need not be permanent. Experience of the change would the better enable decision on that point. It is necessary, unfortunately, to consider the case of the youth who is quite unable to apply the venerable Greek adjuration, "Know thyself." Nor is it always possible for his parents and guardians, pastors and masters, to discern what he is likely to do even passing well. The architectural schools may hope that he has a turn for civil-engineering; the civil-engineering pedagogues to whom he is referred may conceive that, by some divine and beneficient law of compensation, he may have been providentially endowed with qualities that are rather desperately assumed to be sufficient for the making of an architect. Each set of pedagogues may rashly presume him more suitable for the inferior, the less exacting profession! It would be a great gain both to the profession—no matter which—and to the candidate, if it could be early determined to what profession, or to what branch of it, if any, the candidate should be relegated. In certain pronounced cases there might be some suggestion of a lethal chamber. . . .

There should be, at any rate, some special and effective means of sorting out the sheep from the goats, and herding each species in its proper pen. Roughly, it is that which the Registration movement aims at doing, besides beating off the wolf from the fold; and a refinement on the process must be sought in greater freedom of interchange and intercommunication between the various cognate professions—those, for example, now represented on the joint committee for Registration—between the various architectural and other professional schools, and between the professional schools of various countries. Towards these objects excellent beginnings have been made, but the movement has not yet excited a sufficient volume of enthusiasm to guarantee the rapid expansion that we all desire for it. Yet what a splendid stroke, what a stimulating example it would be, if complete unity of the schools could be at once secured! It is no doubt part and parcel of the scheme for Unity of the Profession, and reorganisation of professional education on a sound and liberal basis would be, possibly will be, a powerful recommendation of the Registration Bill.

Fabulous Fees (?)

The Vicar of Brandon, Durham, has written to the "Newcastle Daily Journal" a scare-raising letter on architects' fees. It is headed "A Grave Scandal," and, being, as that heading suggests, of rather sensational character, has naturally been widely quoted in the newspapers of London and the Provinces. One could wish that all this publicity (which rather tends to set architecture in a false light) had been based on something less vague than the Vicar's figures. Here is his specific charge: "The Brandon Urban District Council is building 500 houses practically all of one type, and contracts have been let for something between 300 and 400 houses, and, according to the Housing Ministry, the architect is entitled to fabulous fees. At any rate, the architect here has submitted an account to this Council for no less a sum than £13,290." Surely there must be some mistake—perhaps a clerical error. Commenting on this subject, Mr. W. Alban Jones, of Leeds, writes, in the "Yorkshire Post": "Two years ago the Ministry agreed with architects upon a scale of reduced fees for housing schemes. This scale is still in operation, and represents roughly about one-quarter of their recognised fees for ordinary commercial or private work. . . . In justice to architects, it should be known that this agreed sliding scale on a scheme of, say, 250 houses costing £800 each works out to about £20 per house, or 2½ per cent. for combined architect's and quantity surveyor's services." The multifariousness of these services he expounds for the information of the laity, who have a very inadequate conception of them; but there is no need to recapitulate the details here. What architects and the public would like to know is whether the Vicar has verified his figures (which he does not present in definite detail) by consultation with the architect. As presented in the letter, they are rather nebulous, and one cannot draw any very definite conclusions from them. The letter should have been accompanied by proof that the statements had been referred to the architect for verification, and to the R.I.B.A. for comment.

The Profession Unanimous for Unity:

Epoch-marking Meeting and Decision

The die is cast. At a meeting of the R.I.B.A. held last Thursday (May 12), it was unanimously agreed, after full discussion of alternative schemes or suggestions, to accept the principle of amalgamation, whereby the whole profession of architecture shall incorporate all qualified architects in one organisation. That is to say, "Scheme A"—the proposal for amalgamation submitted by the sub-committee on Unification and Registration, was adopted in preference to "Scheme B," which was a proposal for federation. As, owing to the Whitsun holidays, we go to press much earlier than usual, it is impossible to discuss in detail this great historical event in the annals of professional organisation; but such discussion is the less necessary since the meeting, with undoubted wisdom, stopped short at affirming the principle, leaving all details for further deliberations. For the moment, our comment must be confined to hearty congratulation to the Profession on having made so splendid an approach to Unity and Registration.

Educate the Public!

As Mr. L. Sylvester Sullivan, Vice-President of the Society of Architects, said in his address on architectural education delivered to that society, "The public does not know much about us or our ideals, but that is greatly our own fault." But why this reluctance to take the public into our confidence? Is it because at the back of our heads lurks the unacknowledged dread that, since anybody who will may practise as a so-called architect, it is as well not to encourage such competition? With that unworthy fear completely uprooted, the laity would be freely told all they want to know, and much more also! There would be no fear that the layman would be thereby encouraged to design for himself any structure larger than a greenhouse; for the incompetent bungler would far rather design for others than for himself; adapting to the circumstances the wise saw that the man who is his own doctor has a fool for a patient. Architects have been hitherto over-reticent about their Profession; but the R.I.B.A., with its special course of lectures for the public, is demonstrating the better way, and it is delightful to see that the experiment is proving so successful.

The Fitzwilliam Museum

In Mr. Edward S. Prior there has been since 1912, the date of his appointment to the Slade chair at Cambridge, a very just if sometimes very delicate balance between the architect and the Professor of Fine Art at his beloved University, which he represented in the high jump, the long jump and over the hurdles—an unrivalled triple qualification for a professorship of Fine Art. Not but what he is armed to the teeth, so to speak, with æsthetic as well as athletic credentials. How proud Mr. Norman Shaw must have been to have for a pupil the winner of the amateur high-jump championship! Mr. Prior, rather in despite, one may be pardoned for supposing, the rebellious promptings of that Old Adam the architect within him, has been protesting, "in the interests of the art-education of the University, against undue expenditures on building, whose costs depreciate art-study, since they starve art-teaching." He now writes to "The Times" to deprecate the proposal to expend some £500,000 on adding "an enormous quadrangle" to the Fitzwilliam Museum. Towards this amount the University has £35,000 in hand, but until the balance can be raised, Mr. Prior fears, "the monumental work of the great architect Basevi" will be "defaced" by temporary structures—corridors that, in his opinion, will be "unfitted for the hanging of pictures." If more room for picture-hanging has become necessary, would it not be better to respect the integrity of the Fitzwilliam, and build an entirely new gallery? This would hardly meet Mr. Prior's views, however, since he seems to prefer "art-teaching" of a more intensive and more direct kind. On the whole, we feel that Professor Prior's view is sane, as well as soundly economic. Five hundred thousand pounds is a good round sum to spend on extensions to an art museum; and we also agree with him that in any case Basevi's work should remain intact.

Housebreakers in Whitehall

It is seldom a joyful sight to behold the housebreakers at their deadly work of destruction. They deprive us of familiar friends, obliterate haunts of memory, alter a little an environment to which we had grown accustomed and therefore friendly. We should never have become reconciled to those war-emergency buildings that so rudely obstructed one's view of a large portion of the Whitehall front of the old Admiralty building—that front which Thomas Ripley built nearly "two hundred weary years ago," and to which, some fifty years later, the brothers Adam affixed their rather graceful screen. Ripley is immortalised by Pope in the Dunciad: "See under Ripley rise a new Whitehall, While Jones' and Boyle's united labours fall." The old Admiralty buildings occupy the site of Wallingford House, wherein the business of the Lord High Admiral was first conducted in 1626 under Villiers, Duke of Buckingham. Pope, it would appear, suffered the usual dejection in seeing the housebreakers at work on the very spot whereon to-day we welcome their removal of an ugly excrescence.

Ex-Service Men and Building

Replying on May 11, in the House of Commons, to Viscount Curzon, Dr. Macnamara, the Minister of Labour, said that, so far, the number of ex-Service men who had applied to be employed in the building trade under the Government scheme was 12,266. That is but a sorry proportion of the fifty-thousand whom the Government had confidently expected to bring into the industry, to relieve it of labour shortage and to reduce to that extent the formidable total of unemployed men who, having served their country in the Great War, certainly deserved more consideration than the operative builders were prepared to give them. As yet, however, the scheme has only just begun, and it has been seriously hampered by the coal crisis.

Unification and Registration: Principle of Unity Unanimously Accepted

A MEETING of historic importance in the annals of the architectural profession took place at the R.I.B.A. on Thursday last, when the report of the Sub-Committee, submitting "alternative proposals for unification based respectively on absorption and federation," was discussed.

Opening the proceedings, the Chairman (Mr. John W. Simpson, P.R.I.B.A.) commented on the representative nature of the gathering, and said that no other profession could have worked in such amity. They had, he said, come together to take a great decision on behalf of the profession, and a heavy responsibility lay on all present. They must endeavour not to make difficulties and to smooth away those that were sure to arise. If they should be successful at arriving in a decision a strong and unique position would be established for the profession—an aim that was well worthy of their efforts. He would ask the meeting, he continued, to adopt the *principle* only of one or other of the alternative schemes submitted by the committee. There were bound to be suggestions and amendments, but once the principle was settled the machinery could be built up afterwards. It was necessary to give a precise definition of the two schemes, and he would therefore describe Scheme A, for absorption, as the bringing of all architects of the United Kingdom into the membership of the R.I.B.A. Scheme B, federation, meant the bringing of all architects of the United Kingdom into membership of one of the existing societies under the control of a federated council.

After some questions and discussion, Major H. C. Corlette, O.B.E., F.R.I.B.A. (representing Australia), proposed that the principle embodied in Scheme A be adopted, subject to such amendment in detail as may be necessary. The motion was seconded by Mr. J. S. Gibson, F.R.I.B.A., who urged the necessity of one controlling body as against federation, which meant the preservation of conflicting bodies and the setting up of an unweildy organisation. A long discussion ensued and various objections were raised, but Sir Charles Ruthen, P.S.A. (vice-chairman), made an eloquent plea that members should forget their artistic leanings and their membership of various bodies and think of themselves only as architects. Various members, also speaking for different bodies and affiliated societies, announced their intention of supporting Scheme A, and the motion was finally unanimously carried.

Mr. H. T. Buckland, F.R.I.B.A. (Birmingham), seconded by Sir Charles Ruthen, then moved an amendment which would, the Chairman said, simplify procedure considerably. This was to the effect that "the R.I.B.A. and S.A. be requested to draft such alterations to its present charter and by-laws as will enable it to comply with the principles of Scheme A, and to confer with the Council of the S.A. as to the conditions of membership. This was passed after discussion, and it was also decided to instruct the sub-committee to submit as soon as possible details of Scheme A.

On the motion of Mr. Ivor Jones, A.R.I.B.A. (South Wales Institute of Architects), it was decided to add to the committee six members, representing allied societies, the selection being left to the chairman and Sir Charles Ruthen.

A vote of thanks to the chairman and vice-chairman terminated the proceedings.

Architectural Causerie

Painting the Town Pea-green

This may not be quite so wicked as "painting the town red." Nor are we quite certain that "pea-green" is the right description. "Apple-green," or "bilious green," or "aggressive green" would do equally well: the nomenclature of colours being notoriously arbitrary. What the colour is called is no great matter. What is of concern is the shocking way in which the lamp-posts round about Westminster kill the landscape. They are painted a vivid, vigorous, staring, emphatic, startling green—a beautiful paint, *qua* paint, full-bodied and brilliant. From a greenhouse (ay, it would indeed be green!), it might sing to you in sweet harmony with its environment; but here in sedate, dingy, sooty, Westminster it shouts and screams at you, until one yearns for the time when the fog and the smoke will beneficently mellow its tone.

Furnishing the L.C.C. Hall

The London County Council seems to be weakening to meanness about its hall. By refusing to sanction the proposed expenditure of £25,000 on specially designed furniture, it has shown a recoil to the old policy of false economy. Of course we have not anlaysed the proposed expenditure item by item; but, taking it in the lump, it does not seem to be an extravagant outlay for the plenishing of a large building like the new County Hall, even at pre-war prices. It is quite easy to understand the panic terrors of spendthrifts who are making a desperate show of repentance and reform in face of a scandalised electorate that ere many seasons will call on them to render an account of their stewardship; but parsimony in furnishing an expensive building will surely bring them under the condemnation of the niggards who spoil the ship to save a ha'porth of tar. Surely "specially designed furniture" should not give way to "ready-made reach-me-downs"!

Ampthill and its Alameda

Yesterday was a great day for the neat little town of Ampthill, the bijou of Bedfordshire; for H.R.H. Princess Beatrice had consented to inaugurate on that day its beautifully situated war memorial. His Grace the Duke of Bedford ceded to the town a fine avenue of lime-trees that, recalling the Alameda at Madrid, has been named accordingly. His Grace's desire was that the avenue should form part of the town's war memorial. Accordingly, at the entrance to Ampthill's Alameda, new gates of wrought-iron have been placed; and at the other end of the avenue, which is three-quarters of a mile long, and where enchantment is wrought when shadow and sunshine play beneath the stately trees, there has been erected a cenotaph of graceful proportions. Altogether simple and dignified in character, it fittingly terminates the beautiful vista, where its presence seems inevitable rather than intrusive. Gates, avenue, and cenotaph combine—art blending happily with nature—to make a war memorial of unique and surprisingly interesting character.

The Lingering of Tradition

ALTHOUGH tradition in building has received short shrift in London and the great cities, in the remote parts of the country the artisans and craftsmen follow more or less closely traditions that have come down from far generations. While the architect, on the one hand, has adopted freely new forms and principles, as they have come along, the builders and workmen have cherished a conservatism which has preserved many good old ideas that the world would be much worse for the loss of.

These traditional forms of working are really more widespread than is suspected by those who have not explored some of the by-ways of the remoter country districts. In many a comparatively unknown neighbourhood are humble cottages bearing evidence of having been constructed after a fashion supposed by many to be long since dead. Take the roofing of houses. In Cumberland and Westmorland there is a method of laying slates and slabs to form a roof that probably exists nowhere else, but which has been handed down from one generation to another from the earliest ages of building in these isles.

The Thatched Roof

In other parts of the country the lingering of tradition is found in the thatched roof. Although he was until recently miserably paid, and in many cases now is but little better off, the thatcher is a highly-skilled worker, and is often capable of quite artistic craftsmanship. Generally the requisite knowledge of his business is jealously guarded, and is frequently handed down from father to son, as it has been for centuries past. It is said to be a dying occupation, and this probably is inevitable, because when all is said in its favour, thatch is not only a makeshift arrangement, but a dangerous one at that, in these days of steam traction-engines. Besides, it is insanitary; and that is its crowning condemnation.

Although the work of a clever thatcher is often beautiful, it is impossible for the tradition to survive much longer in the face of a growing education. Even the humblest cottager is now conscious of the defects of his thatched roof, and an opinion is fast growing that the practice of the craft has lingered on too long.

Hipped Gables

Speaking still of roofs, the hipped gable, so common in wet and windy parts of the country, carries with it a traditional practice, if not so old as some of the others, of very ancient origin. It is a good idea, not likely to be so quickly disturbed as the thatch, as it suits a need as pressing as ever it was, that of keeping a gable dry, and meeting the buffeting of wind and weather. In the south-western counties in exposed places the construction of these is undoubtedly on traditional lines, for, although practice varies in other parts of the country, it will be found in the remoter districts that the craftsmen have a use that they follow closely and have done for long generations. This is seen in many house roofs in Dorset and the other Wessex counties, where the purlins are carried through and the ends boxed in by a barge board and soffit, making a feature that gives an appearance of strength and good workmanship wanting in most modern forms.

Where there is an absence of tradition in building, it cannot be said that construction benefits. As an example (unfortunately), there is none in foundations. The modern scientific ideas on the point, good as they undoubtedly are for the most part, have not yet reached the common craftsman, and he inherits nothing in this way. Consequently the worst part of the country house is underneath it. The concrete, the footings, the damp-course of the present-day town dwelling are new to the rural builder. He does not understand them, because his father lacked knowledge of them. Of course, he is learning, but it is sometimes a slow process; he would have learned more quickly and surely had he seen his father do it. Notwithstanding, he has raised some firm and substantial piles which have stood for many years, but not by an inherited science, good luck in some cases taking its place.

Barns and Granaries

It is curious, however, in this connection that though the country builder inherits no traditions about the foundations of his house, he does in the case of barns and granaries. Evidently in the old days, where a man's wealth was stored there his thoughts were also, because while he was careless of his own and his family's health (the greatest and truest of all treasures), he safeguarded his store of goods most skilfully. Therefore, in erecting a place for them the foundations received every attention. Thus, we get handed down those curious mushroom-shaped supports for the foundation beams which lift, as it were, the structure a couple of feet from the ground, and which neither rats, mice, nor other vermin can surmount. When entrance is effected through the door it is necessary to take a pair of steps which, being removed when done with, leave no means of ingress for any uninvited or undesired visitors.

There is something very interesting about these old toadstool foundation-stones which impels the thought that it would have been a good thing for the countryside if only half as much thought had been given to the under parts of the rural house in the past. It is also curious that a traditional practice should survive so long without leaving any trace of influence on other branches of the same work.

Influence of the Craftsman

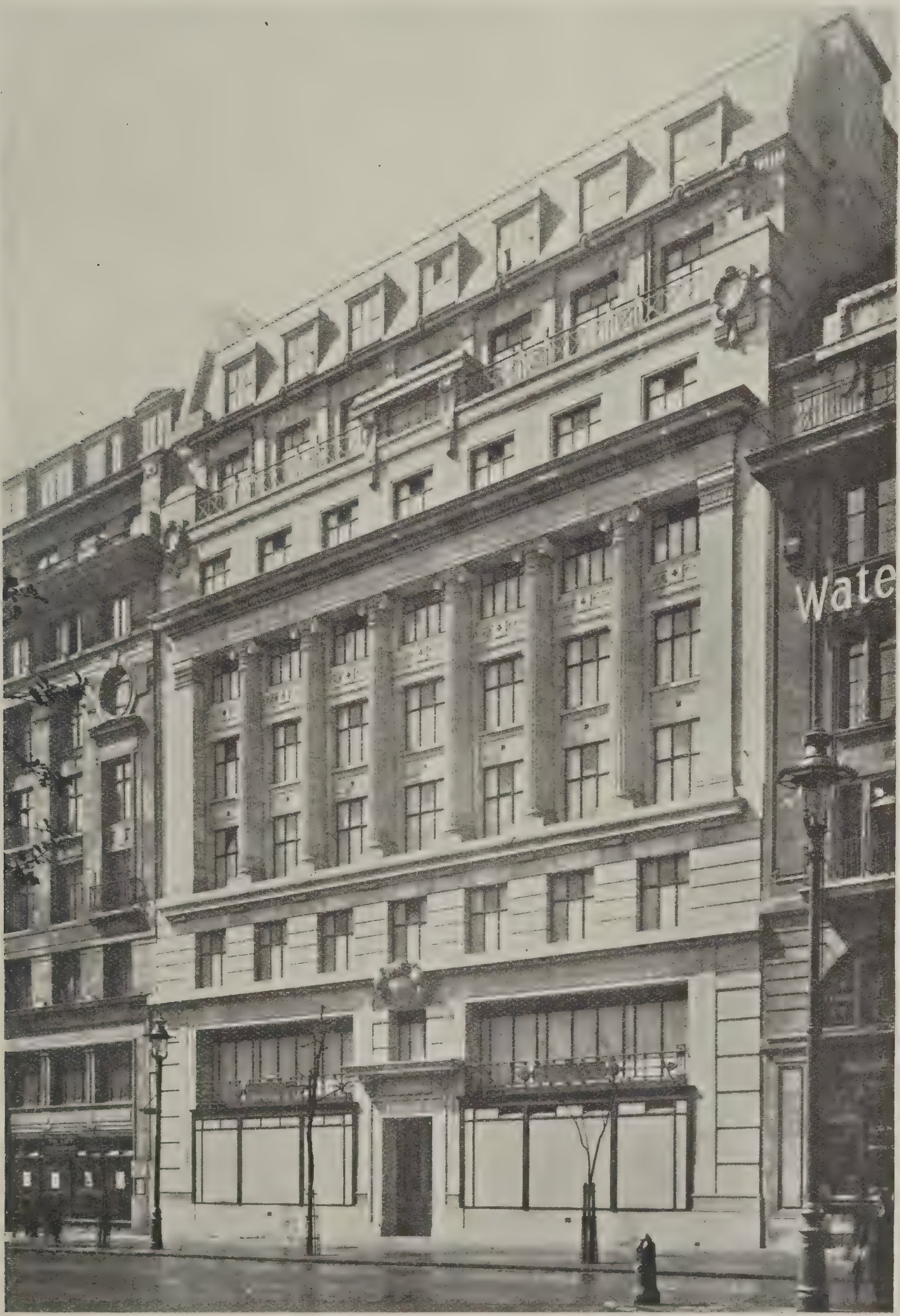
The craftsman's connection with design was more closely related the farther back one goes; it has been a diminishing quantity for some time, but where it has lingered, tradition has followed closely. In the woodwork of the country carpenter this was seen until quite lately. It is common knowledge how the gothic tradition was kept up by the craftsmen long after the rise of the architect as we know him to-day, and his bringing in of newer forms and methods. As an instance, the residence of the writer was erected in the classic days of George II., when gothic had become a study of the antique, but in the woodwork which happily survives there are distinct touches of the mediæval style, in some parts quite pronounced. In fact, one's interest is aroused on noting not only how closely mingled the "gothic manner" is with later forms, but the evidence of the slowness with which the former was dying.

The tenacity of gothic in its hold on the traditional practice survived not only in woodwork, but in brickwork, and one has only to look round a remote country district to find the bricklayer's work of quite recent days giving evidence of it. This of course is to be found only in that work over which he had complete control, and when he was not under the influence of an architect or modern town builder. Apart from other considerations, it can be said that where architect and builder have been one and the same person, some very curious and interesting traditions have survived, which compensates to a certain extent for some of the disadvantages of the combination.

A. W. J.

Current Architecture. 82.—Princes House, Kingsway, London

Trehearne and Norman, Architects



Princes House is one of the latest buildings to be completed in Kingsway. In its general character it has much in common with the distinctive work which has already been carried out in that thoroughfare by Messrs. Trehearne and Norman. The composition is well studied, and the order is appropriately employed.

Princes House, Kingsway

Princes House, Kingsway, designed by Messrs. Trehearne and Norman, of Windsor House, Kingsway, for the occupation of one of the Government departments, has just been completed. It consists of basement, ground, and eight floors over, and is of fire-resisting construction. The front, which is of Portland stone, was designed with the idea of balancing the block of buildings consisting of Imperial, York, and Alexandra Houses, and the same horizontal lines, as far as possible, as those of Imperial House at the other end of the block have been followed. The building has been planned to eliminate passages and waste of space generally.

There was an existing building close up to the rear of the premises, and, in order to provide adequate lighting at the back, the new structure is practically steel frame up to second floor level, so as to give the maximum of window space. The result has been to make the ground floor and the first floor very well lighted indeed.

The building has a floor area, exclusive of staircase, lavatories, landings, etc., of about 54,000 ft., and is erected upon a site area of 7,800 ft., with a frontage to Kingsway of 80 ft. The boiler house has a double floor, so that fuel can be stored above the boilers, and stoking can be done by gravity from above.

The general contractors were Messrs. W. F. Blay, Ltd., who have had to erect the building during a period of great labour shortage. It was begun in October, 1919, and finished in March, 1921.

The lifts are situated together in the main stair well, and the construction, which is carried out without any central guides or struts across the well, gives a light and airy appearance which compares very favourably with installations in neighbouring buildings, but the main feature is the system of high-speed control.

Operated upon the car switch principle, the lifts are designed to run at 260 and 360 ft. per minute respectively. These speeds have not previously been accomplished without the aid of two-speed control, which means that the lift can be started at slow speed, put on to a higher speed when the journey is long enough to justify it, and again reduced to a slow speed before stopping. These Marryat and Scott lifts, however, have only the one speed, but by means of a patent device the lift automatically decelerates to a crawling speed on reaching the required floor, and exact floor levelling can be attained by even an untrained operator in every instance.

The patent decelerator is a very simple affair. On approaching the desired floor the car switch handle is returned halfway to the stop position, which causes a relay to come into operation upon the control board. This relay first inserts the starting resistance in the amature circuit, and then cuts in in a series of steps a diverting resistance across the armature terminals. The whole operation only takes a few seconds, but the result is perfectly smooth deceleration.

The asphalte work was carried out by Messrs. Thomas Faldo and Co., Ltd., of Kingsway, London, who executed similar contracts in connection with Victory House and other Kingsway buildings. Their work includes the provision of covering to cornices and dormers, roofs, and horizontal and vertical dampcourses, all material having been manufactured at the firm's works at Rotherhithe.

The whole of the Portland stone in the building was quarried, dressed, fixed, and cleaned down by the United Stone Firms, of Bristol, and came from their Cottonfields Quarries at Easton, Portland. It was the first contract of size carried out by this firm upon their after-war reconstruction, though they have since completed many others.

The heating was designed by Mr. A. H. Barker, B.A., B.Sc., and was carried out by Messrs. G. N. Haden and Sons. The steelwork was designed by Mr. H. F. Smith, of Harrow, and carried out by Messrs. Drew-Bear, Perks and Co.

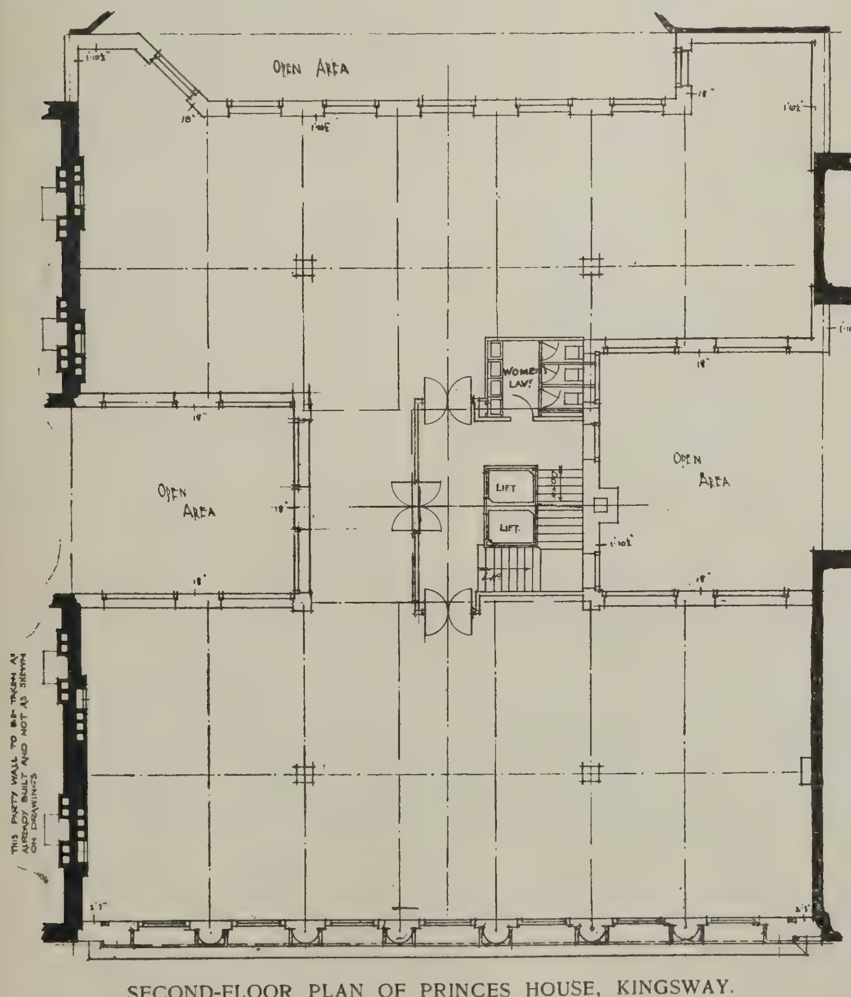
Diespeker's patent Bigspan floors, which are used throughout the building, are constructed of hollow burnt clay blocks with intervening reinforced concrete beams of the same depth as the floor, thus providing a clear soffit between the supports. They have also been adopted at Victory House and Crown House for the same architects, and for many of the most important buildings in London and the provinces.

Messrs. Nettlefold and Sons, Ltd., of 54 High Holborn, W.C.1, supplied a considerable amount of best-class brass foundry, also all the locks for the building.

The entrance hall is in marble and bronze—the former by Messrs. Farmer and Brindley and the latter by Messrs. F. Thomas and Co. Staircases are tiled, and the landings have terrazzo, both by Messrs. W. B. Simpson and Sons.

Other sub-contractors were as follows: Artificial stone steps, Messrs. Malcolm McLeod; sanitary fittings, Messrs. H. Pontifex and Sons; cast-iron work, Messrs. Wilmer and Sons; plumbing, Messrs. H. S. Thorne; electric wiring, Messrs. A. T. Goodwin and Co.; stone carving on front, Messrs. E. J. and A. T. Bradford; joinery, Messrs. P. H. Barker; steel windows and frames throughout, Messrs. Humphries, Jackson, and Ambler, Ltd.; lift enclosures, Messrs. Harold Cooper and Co.; lantern and pavement lights, the British Luxfer Prism Syndicate, Ltd.

The quantity surveyors were Messrs. Gleed, Sons and Co.


OPEN AREA
OPEN AREA
OPEN AREA
WOMEN LAV?
LIFT
LIFT
THIS PARTY WALL TO BE TAKEN AS ALREADY BUILT AND NOT AS SHEWN ON DRAWINGS

SECOND-FLOOR PLAN OF PRINCES HOUSE, KINGSWAY.

Grants to Private Builders

A promise was given by the Government last year that legislation would be introduced at the beginning of the present session of Parliament to provide for payments in full to those completing houses between December 23, 1920, and the date of the coming into operation of the new Act, and to extend the period during which the subsidy can be earned. In a Memorandum No. 49 just issued the Ministry of Health state that, in accordance with this undertaking, the Government have introduced a Bill for the purposes above mentioned, and it is hoped that this Bill will become law at an early date. In the meantime local authorities will, of course, have no authority to issue Certificate B in respect of houses completed after April 23, 1921. Local authorities should, however, examine any applications which are made for the issue of Certificate B, and if they are in order should inform the applicant accordingly, and that Certificate B will be issued as soon as Parliament has granted the necessary powers.

Architectural Education*

By L. SYLVESTER SULLIVAN, F.S.Arch., A.R.I.B.A., Vice-President of the Society of Architects

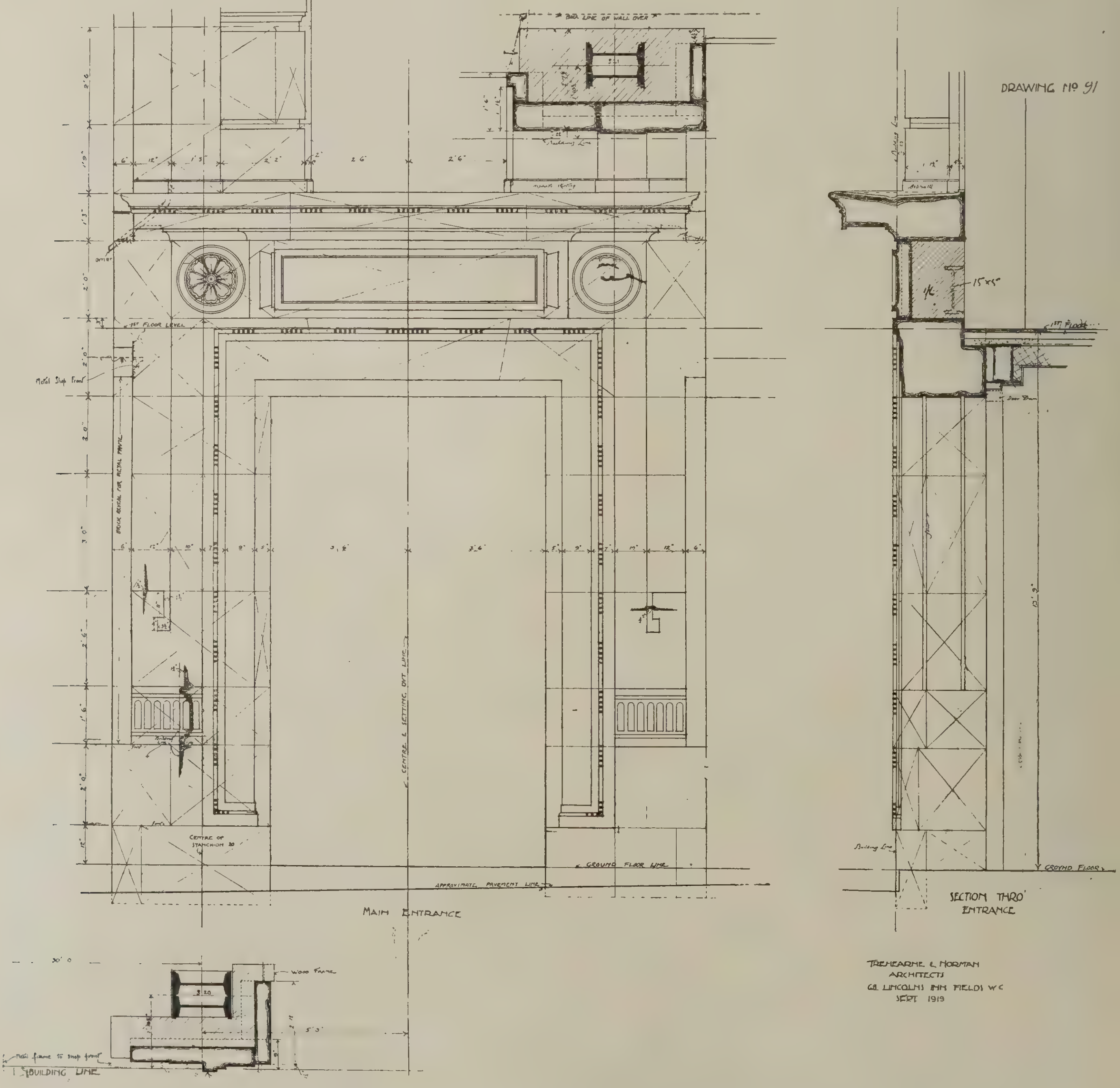
NOT long ago, and not for the first time, a father came to me for advice concerning his son still at school, who had declared a vocation and wished to enter his novitiate of the mystery of architecture. Before undertaking the responsibility I found it necessary to turn over in my own mind this mystery on which my advice was sought, and to clear away any undergrowth which might be obscuring the vision of my own vocation.

I cast my mind back some twenty-eight years and realise the shortcoming of the education then available for the student getting his A.B.C.'s of architecture, and renew my vows of gratitude to that father of my own who denied me articles and gave me instead a three years' run of an art school, where he grounded me first in modelling from the round—in those days an enlightened beginning—and sent me to play around the carpenter's and blacksmith's shops—here to make something, there to see something. To the brickfields to see the bricks made, and to the job to watch them laid, to hold the lines, to mix the mortar, and to be thoroughly happy. Later, on coming to London, education was scrappy and haphazard, for the first need was bread and butter, which I had to make for myself, and class fees become matter of perspective when beginner's wages are seven half-crowns a week. When I could begin to afford classes I found them full of "les nouveaux Arts," very soon abandoned for the harder school of public competition, with published plates as my class master; but I got a few good lessons from Roscoe Mullins in clay modelling, and I remember another in the free use of indiarubber, a little mortifying to pride at the time, but gratefully remembered since. There was no question of minimum wage in those days; one worked, and kept play almost within one's means.

I bring my mind to the present and compare the class of education now obtainable, and cast it forward, and think of what it may be twenty-eight years hence.

---

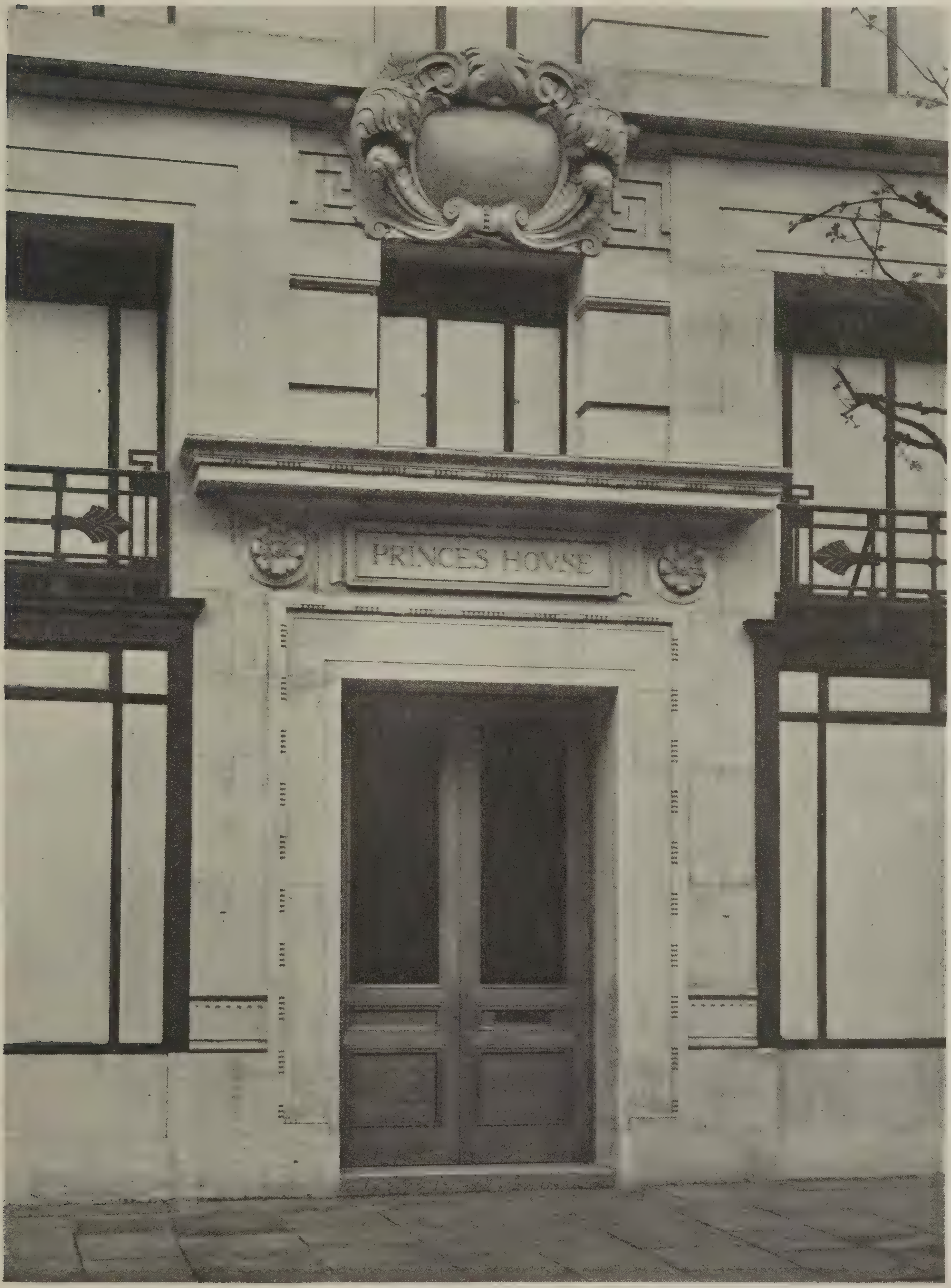
* Extracts from a paper read before the Society of Architects.



PRINCES HOUSE, KINGSWAY: DETAIL OF MAIN ENTRANCE. TREHEARNE AND NORMAN, ARCHITECTS.

Current Architecture. 83.—Princes House, Kingsway: Detail of Main Entrance

Trehearne and Norman, Architects



Princes House is provided with a simple and very dignified central doorway, to which additional emphasis is given by a carved cartouche surmounting the three-light window over. This photographic view may be usefully studied in conjunction with the masonry drawing reproduced on the opposite page.

I compare these periods of past, present, and to come, and find my heart leaping with hope for those young men and women not yet born who will have the privilege of learning then.

After referring to the essential qualifications necessary to become an architect and dealing with architectural education generally, Mr. Sullivan asked a few opening questions. He said:

Is the father certain that his son has any greater wish beyond a boy's fancy to become an architect, and has he tested it by means of a little sensible cold water?

Has he realised that the profession of architecture is not one for fools? That it is not necessarily a refuge for those shirking their work for or failing for the Navy, Army, or Civil Service? That it is arduous, poorly paid, and full of disappointment? Does he think, and does his son think, that knowing these things it can be "stuck out" to the end of training even?

All this we may suppose having been affirmatively answered, what of the question of preliminary education? That should be of the best obtainable within means of pocket, but need not necessarily be of the more expensive public school and University type. Indeed, we may be inclined to advise against the courses leading to certain University degrees in Architecture as unpractical and more for the dilettante than the diligent. I would prefer success to come to the lad through capacity rather than through the making of friends, though, of course, these may be useful. The sooner the boy realises it is work he has to face all through his life the better, so let him stay at his school a year or so longer than he might have done, getting a severe grounding in mathematics, mechanics, and modern languages; at the same time taking drawing from the round, geometry, elementary perspective and modelling, all of which he can get well taught in the local art school.

Not much in the way of "orders" or "styles" at this stage, which he may have to unlearn, and will certainly get with less tedium under direction later. Let him do such work as this off his own bat if he likes, but he will best wait for teaching when he gets into the hands of the architect masters. Give him "Martin Chuzzlewit" to read that he may learn something about Pecksniff, his mind and manner, and urge him to read French, Italian, and (shall we say it) American, in the vernacular, for his own amusement and subsequent use, for these tongues will be valuable to him later on in opening the ways into these countries and the reading of their fine and logical books on his art. And see, finally, that he gets one or two, at least, of his holidays abroad, rubbing off as early as possible his insularity, and any idea that England and its arts are the only good things in the world. If he can have a carpenter's bench of his own and occasionally hit his thumb so much the better.

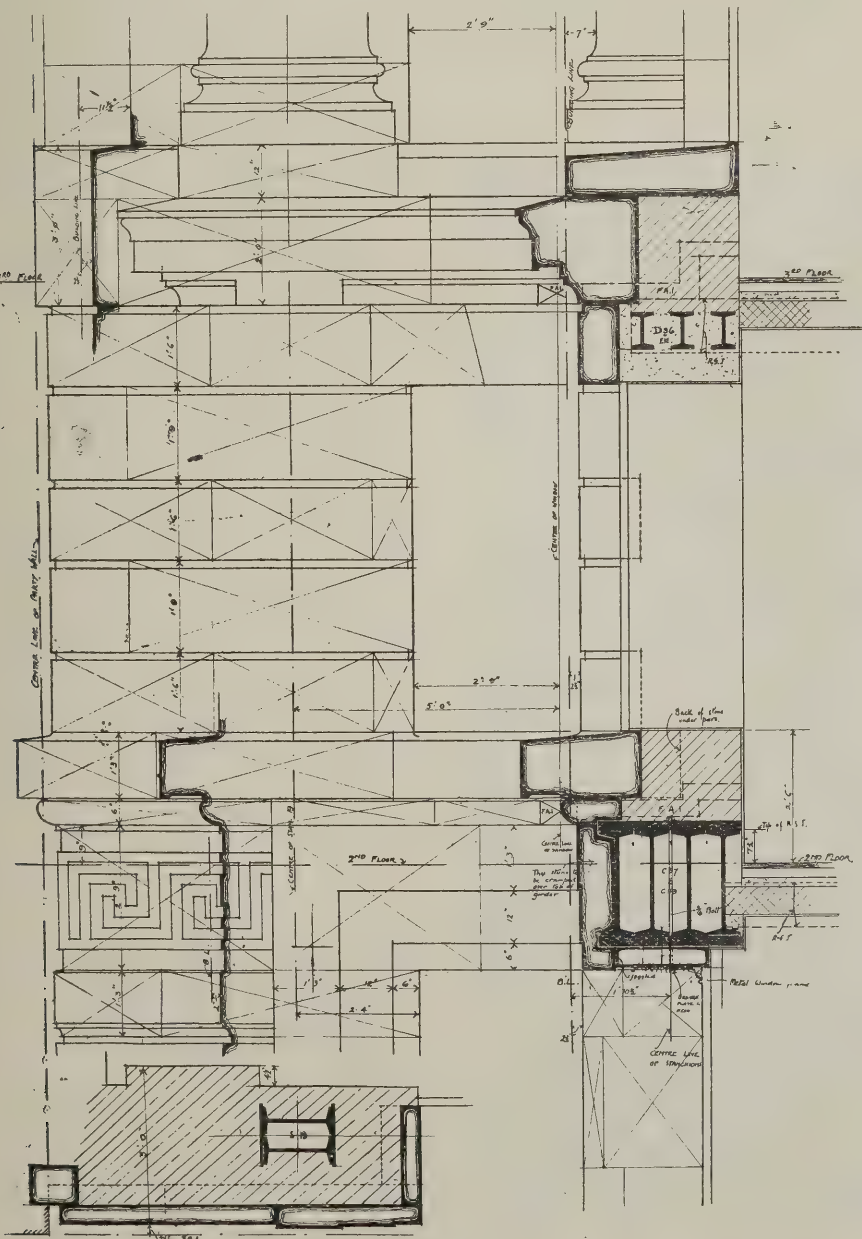
We may now assume the boy to have reached the age of nineteen or thereabouts —and we come to the delicate question of articles. Delicate because we know, maybe, that he and his premium are ours for the asking. What a chance for Pecksniff! I can picture him, in a dignified way, of course, turning in his grave—his monumental grave, for surely it must be monumental—at the bare idea of such a chance as this being let slip, and I can almost feel my own hair stand up on end in front like his, at this opportunity for shaping a boy's ends! But I say "No! to articles"—and in my mind's eye I can see an incensed Pecksniff wrapping his winding sheet about him togawise and stalking off "to see somebody about it."

And why not articles? Is not Pecksniff reason enough? If not, I will say that no architect has time to devote to any pupil the attention and training the pupil ought to have in return for his articles and his fees, even if he knows the lines that training and attention ought to take; and I will say further that so far as my experience goes I have met few of outstanding merit among all the articled pupils I have rubbed shoulders with in the course of twenty-six years, though no doubt there are such.

I will advise the father, if he can afford it, to spend the three or four hundred pounds the articles would have cost in the architectural schools; if he cannot afford it, let the boy relieve him if he can by winning entrance scholarships into these schools, for there the training is systematic, upward, and progressive from year to year, so that at the end of the fourth or fifth year the boy will have left his articled contemporary far behind in knowledge of architecture, bar perhaps in office usages, which can be very quickly picked up afterwards. He will have taken such qualifications and diplomas as the profession bestows on its votaries in his stride, and, I venture to think, have a happier temperament ingrained in him than the disgruntled outlook on life the disappointed articled-pupil seems to acquire as the chief attribute of his partially wasted years. In passing, too, he will probably have had a shot for the big scholarships and prizes and, maybe, has pulled off one or more of them to his further advancement in learning.

On the other hand, if he has found his vocation to be a mistaken one he will be advised so, and will easily change it without the disadvantage of breaking articles.

Another course may be taken, where means are very limited, for the boy may be got into an office as an "improver," as it used to be called, for little or no pay at commencement, but without articles. This has a good deal to commend it if it can be done in conjunction with periods in the schools or ateliers and with fairly frequent changes of office, for the boy will pick up experiences of varying kinds as he goes,



PRINCES HOUSE, KINGSWAY: DETAIL OF MASONRY AND STRUCTURAL STEELWORK.

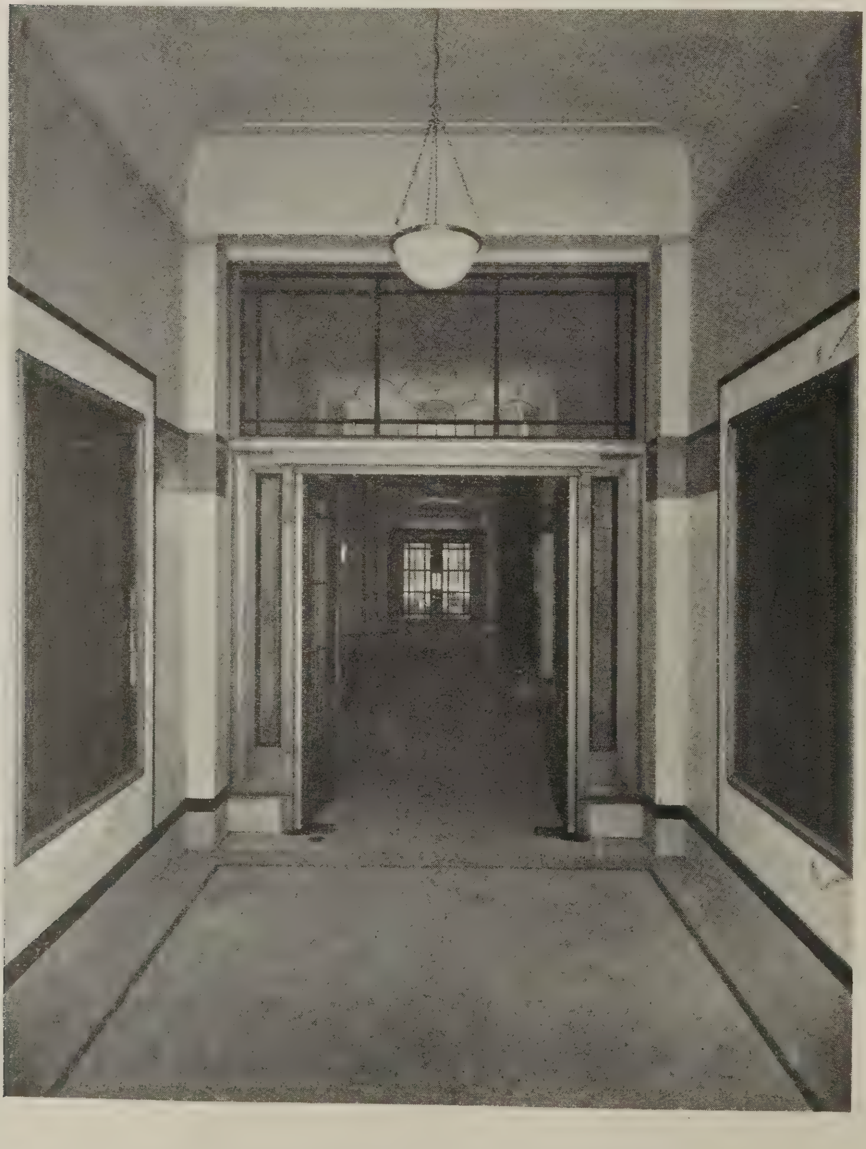
and I would particularly advise him not to stop too long in offices of a specialising kind. Incidentally, he will probably improve his pay at each change and avoid risk of becoming ruttish or rusty on his hinges. But in any case pay is not brilliant.

This brings me to the end of my advice and to another point. I said that we should give our round peg the crown of all, the opportunity and fact of achievement. We have as a profession no such opportunity to give, but I can see no reason why the Government should not do so. I suggest that some item of the work done by the Office of Works, and other public bodies such as the London County Council, should be set aside every year, or every year or so, as commissions to be given to the successful winners of the big scholarships at the completion of the studies these scholarships have brought.

I do not advocate for a moment that these young architects should be taken on to the staffs of these bodies—that is generally a soul-destroying business, and there is too much reason to suppose that these young men would become mere docketting and minuting machines. The work should be given them as commissions, under the direction of the First Commissioner of Works and the chairman of the L.C.C., in conjunction with and encouraged by the President of the Board of Education.

If preferred, these promising young men might work under the advice and safeguard of some responsible official, so long as the functions of that official were limited. I cannot see that such a scheme would cost the Government much, if any, more than it does now. The encouragement and value to the cause of the art of architecture would be incalculable, and I am convinced that it would be to the benefit of Government and the country as a whole.

You may accuse me of idealism and optimism—I think I am merely practical, but every architect if he is to aspire "as the creator" must be stuffed full of ideals and optimism. No pessimist I ever met was endowed with anything that seemed to encourage him to look upwards and enjoy the heights. A pessimist is one whose regard is ever on the ground in the optimistic hope that he may find a sixpence, when he might be watching a sunset or regarding the stars above him. Both the uplooker and the downlooker may be apt to bump into the lampposts of reality, but I know that the stargazer will have a more enjoyable memory than the searcher of the ways underfoot, and no one is the worse for looking heavenward.



PRINCES HOUSE, KINGSWAY: THE ENTRANCE HALL.

R.I.B.A Annual Elections

The following new nominations to Council and Committees have been made by members in accordance with By-law 33.

AS VICE-PRESIDENT.

Downing, Henry Philip Burke, F.S.A. (F.). Nominated by Wm. A. Pite, Sydney Tatchell, Alan E. Munby, Leslie T. Moore, Edward Maufe, Alner W. Hall, Austin Durst, W. Howard Seth-Smith, T. P. Figgis, Fellows; A. Needham Wilson, Robt. W. Pite, Associates.

Hubbard, George, F.S.A. (F.). Nominated by Alfred W. S. Cross, Wm. Woodward, W. Gillbee Scott, Herbert A. Satchell, Max Clarke, Fellows; Chas A. Daubney, K. Gammell, Associates.

Searles-Wood, Herbert Duncan (F.). Nominated by Delissa Joseph, William A. Pite, Sir Henry Tanner, Lewis Solomon, A. H. Kersey, Ernest Flint, Percival M. Fraser, Fellows.

AS MEMBERS OF COUNCIL

Fyfe, Theodore (F.). Nominated by H. Austen Hall, James S. Gibson, W. B. Simpson, W. S. A. Gordon, W. Curtis Green, Fellows; Herbert Passmore, H. C. Brown, Associates.

Gill, Charles Lovett (F.). Nominated by A. E. Richardson, Stanley C. Ramsey, S. D. Adshead, Arthur Stratton, Martin S. Briggs, Fellows; E. B. Musman, W. Harding Thompson, Associates.

Joseph, Delissa (F.). Nominated by H. D. Searles-Wood, Walter J. Burrows, F. T. W. Goldsmith, F. Adams Smith, Henry T. Gordon, R. M. Roe, Fellows; Chas. A. Daubney, Associate.

Munby, Alan Edward, M.A.Cantab. (F.). Nominated by W. A. Pite, T. P. Figgis, R. Unwin, H. D. Searles-Wood, George Hubbard, Herbert W. Wills, Fellows; A. Needham Wilson, Associate.

Scott, William Gillbee (F.). Nominated by W. Henry White, Herbert A. Satchell, Wm. G. Hunt, Alfred W. S. Cross, Wm. Woodward, Fellows; Horace Cubitt, K. Gammell, Associates.

Wills, Herbert Winkler (F.). Nominated by Alfred W. S. Cross, George Hubbard, S. D. Adshead, Sydney Tatchell, Fellows; Patrick Abercrombie, Horace Cubitt, Herbert A. Welch, Associates.

AS ASSOCIATE MEMBERS OF COUNCIL.

Bucknell, Leonard Holcombe (A.). Nominated by H. Austen Hall, Robt. Atkinson, E. Stanley Hall, Ernest Newton, Fellows; William G. Newton, G. D. Gordon Hake, W. T. W. Ching, Associates.

Budden, Lionel Bailey, M.A. (A.). Nominated by Alfred W. S. Cross, George Hubbard, S. D. Adshead, James S. Gibson, Sydney Perks, Fellows; Patrick Abercrombie, Horace Cubitt, Associates.

Hake, Guy Donne Gordon (A.). Nominated by H. Austen Hall, Hugh P. G. Maule, W. H. Ward, Robt. Atkinson, Fellows; L. H. Bucknell, R. A. Duncan, C. H. James, Associates.

Sheppard, Arthur William (A.). Nominated by G. Topham Forrest, Maurice E. Webb, W. E. Riley, Fredk. R. Hiorns, Fellows; E. P. Wheeler, Chas. McLachlan, W. T. Curtis, Associates.

AS MEMBER OF THE ART COMMITTEE.

Adshead, Professor Stanley Davenport, M.A. (F.). Nominated by Stanley C. Ramsey, Professor A. E. Richardson, Arthur Stratton, C. Lovett Gill, D. Barclay Niven, Fellows; W. Harding Thompson, E. B. Musman, Associates.

AS MEMBER OF THE LITERATURE COMMITTEE.

Stratton, Arthur, F.S.A. (F.). Nominated by W. H Ward, Theodore Fyfe, Martin S. Briggs, H. Austen Hall, H. H. Statham, Louis Ambler, Fellows; J. Alan Slater, Associate.

AS ASSOCIATE MEMBER OF THE LITERATURE COMMITTEE.

Ansell, William Henry, M.C. (A.). Nominated by Theodore Fyfe, W. H. Ward, Martin S. Briggs, H. Austen Hall, Matthew Dawson, Ernest Newton, Maxwell Ayrton, F. W. Troup, Winton Newman, Henry V. Ashley, Fellows.

Birnstingl, Harry Joseph (A.). Nominated by Frank M. Elgood, Guy Church, Stanley C. Ramsey, Fredk. Chatterton, R. Allsebrooke Hinds, Fellows; Ralph W. Thorp, J. H. Belfrage, Associates.

AS MEMBERS OF THE PRACTICE COMMITTEE.

Collard, Allan Ovenden (F.). Nominated by Sir Banister Fletcher, Ernest S. Gale, Alex. P. Durlacher, George A. Lansdown, C. H. B. Quennell, Fellows; Bernard W. H. Scott, Wm. E. A. Brown, Associates.

Lovegrove, Gilbert Henry (F.). Nominated by R. Elsey Smith, Sydney Perks, Francis J. Sturdy, Arthur F. Usher, Fellows; R. H. J. Mayhew, H. McLachlan, Henry Lovegrove, Joseph Hill, Associates.

Nicholas, Charles (F.). Nominated by J. E. Dixon-Spain, Owen C. Little, Henry J. Chetwood, Basil Oliver, Fellows; Eustace Corrie Frere, Ian B. M. Hamilton, Kenneth S. Broad, Associates.

AS ASSOCIATE MEMBERS OF THE PRACTICE COMMITTEE.

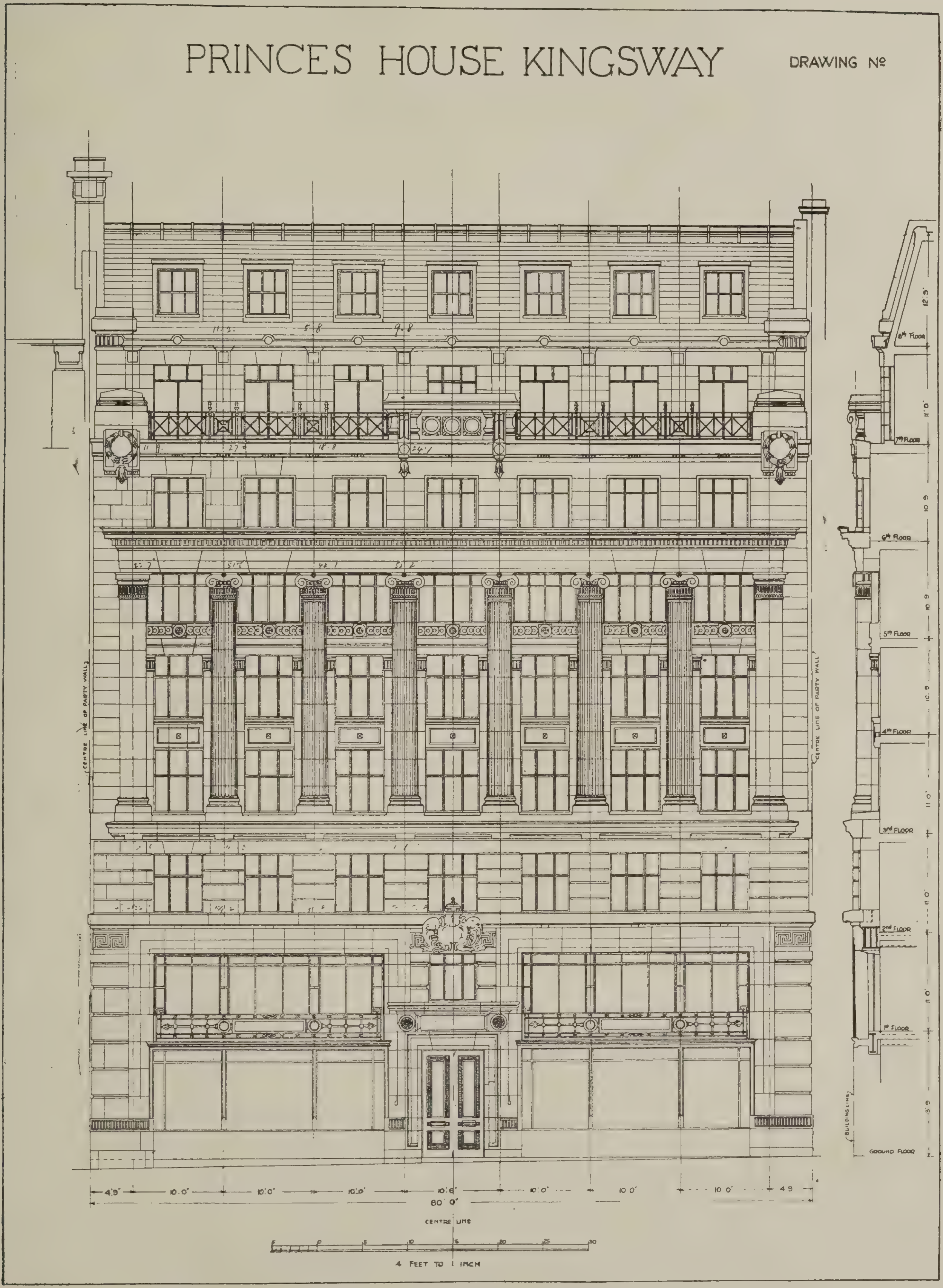
Cockrill, Gilbert Scott (A.). Nominated by Major Harry Barnes, Sir Henry Tanner, R. J. Williams, R. J. Thomson, Leslie Mansfield, Fellows; K. A. Cockrill, C. Wilfrid Box, Alex. G. Bond, Associates.

Hamlyn, William Henry (A.). Nominated by Alfred W. S. Cross, W. Gillbee Scott, Fredk. R. Hiorns, Henry Hyame, Fellows; H. V. Milnes Emerson, H. Haylock Golding, K. Gammell, Associates.

Jelley, Frederick Richard (A.). Nominated by Alfred W. S. Cross, W. Gillbee Scott, Fredk. R. Hiorns, Henry Hyams, Fellows; H. V. Milnes Emerson, H. Haylock Golding, K. Gammell, Associates.

Current Architecture. 84.—Princes House, Kingsway : Front Elevation

Trehearne and Norman, Architects



Messrs. Trehearne and Norman, who have been closely associated with the development of Kingsway, have lately completed in that thoroughfare the fine new building of which an elevational drawing is shown above. The composition is carefully studied, and effective use is made of an engaged order, which, it will be noted, is structurally employed.

Design in Reinforced Concrete

IN our issue of March 30 we published an enquiry from "W. P. S." with regard to reinforced concrete floor calculations, which was answered by an expert contributor, Mr. Percy J. Waldram. We have now received a further communication from our querist, who asks for information on a number of important points arising out of the reply. "My enquiry," says our correspondent, "was made chiefly to ascertain whether concrete engineers had yet hit upon some short and simple method of calculating for simple floors like the one given in my query. Apparently not, for beyond the use of graphs, tables, and slide rule, the calculations required are much as before.

"I have a set of graphs for my own use (which, by the way, were published in THE ARCHITECTS' AND BUILDERS' JOURNAL in June, 1911). These, of course, save me a considerable amount of labour, but I had wondered lately if some ingenious mathematician had not combined the various graphs, or in some other way further reduced the labour involved. For an approximate cross-check, after calculations have been made, I find Kahn's formula—viz.: $M = 13{,}760 \ d \ A_5$, exceedingly useful, and, so far as I know, this appears to be the only short and simple formula in existence.

"As regards the slide rule, my experience is that unless one has constant practice in the reading off of results, there is a great liability to error (this fact may perhaps account for the small errors in the figures published in the reply). I question, therefore, if much time is saved by its use, at all events with the flat slide rule. With the cylindrical slide rule I have not had much experience.

"With regard to the reaction of slab on each of the two main beams given in the reply and in most tables as $\frac{11}{10}$ of slab load, it would be interesting to myself and others to know on what premises this conclusion is deduced. I shall be glad to know, also, whether there is any objection to making the span of the middle slab 6 ft. 6 in. and the two end slabs 6 ft. 0 in., since the middle slab is continuous, and presumably stronger, span for span, than the end slabs."

Mr. Waldram's reply is as follows:—

Graphs to assist the design of reinforced concrete are best left in the form of simple plottings of moments of resistance or carying capacity of beams, slabs, and columns, etc., in terms of dimensions and percentages of reinforcement. Combined diagrams are invariably less easy to decipher. Ordinary slide rules are only correct to three figures. Greater accuracy is unnecessary, because bars cannot be rolled nor concrete cast to an accuracy of 1 per cent.

The calculation and design of continuous beams is more or less a sealed book to architectural draughtsmen, few of whom are able to follow the application of the calculus by which such problems are treated in the majority of those text books which do not frankly omit them altogether.

The truth of the assumption that the intermediate piers of continuous girders with supported end bearings receive more load than they would if the spans were severed can be proved experimentally. It is also obvious from a comparison of the shear and bending moment diagrams of the two conditions. Fig. 1 shows the conditions of three separated spans carrying an equally distributed load of W per foot run, and Fig. 2 shows the same loads carried by a continuous girder. Bearing in mind the fact that the point of minimum shear O must coincide with the point of the maximum bending moment O_1, it will be seen that any reverse bending moment over B or C necessarily displaces this point O towards the free end bearings, with the result that the reactions on A and D are relieved and those on B and C increased.

Bending moments and reactions on continuous girders are calculated by Clayperon's Theorem of Three Moments, the proof and application of which is too long to be incorporated in the reply to a query.

It supplies the following equations for solving cases of equally distributed loading carried by continuous girders, of which the moment of inertia is constant over the span, and carried on intermediate supports which are in line.

To find the reverse moment at B (M_B)

$$M_A l_1 + 2M_B (l_1 + l_2) + M_C l_2 = -\tfrac{1}{4}(wl_1^3 + w_2 l_2^3)$$

To find M_C

$$M_B l_2 + 2M_C (l_2 + l_3) + M_D l_3 = -\tfrac{1}{4}(w_2 l_2^3 + w_3 l_3^3)$$

and so on for any number of spans.

When, as in the case under consideration, $M_B = M_C$ and $M_A = M_D = O$ and $l_1 = l_2 = l_3 = l$ and $w_1 = w_2 = w_3 = w$ the equation is simplified to $5M_B l = -\frac{1}{4}(2wl^3)$ or $M_B = M_C = -\frac{wl^2}{10}$

The reaction at any pier, say B, is the sum of the shear (S_{BL}) on the left, plus the shear (S_{BR}) on the right.

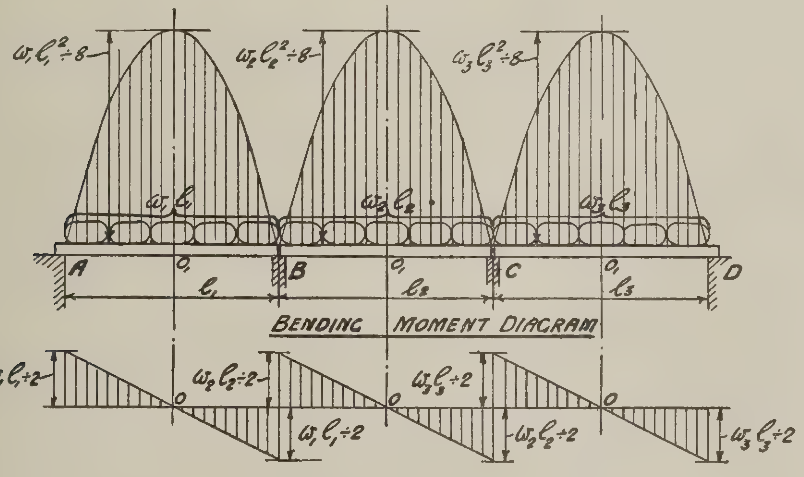
Consider the span l_1. The reverse bending moment—M_B at B and the shear S_{BL} tend to cause a reverse moment at A, which tendency is resisted by the load wl_1 acting at a leverage of $\frac{l_1}{2}$ i.e., by the moment $+\frac{wl^2}{2}$; or $-M_A = -M_B + S_{BL}l_1 - \frac{wl_1^2}{2}$.

Similarly $-M_C = -M_B + S_{BR}l_2 - \frac{wl_1^2}{2}$,

$$\therefore S_{BL} = \frac{wl_1}{10} + \frac{wl_1}{2}$$

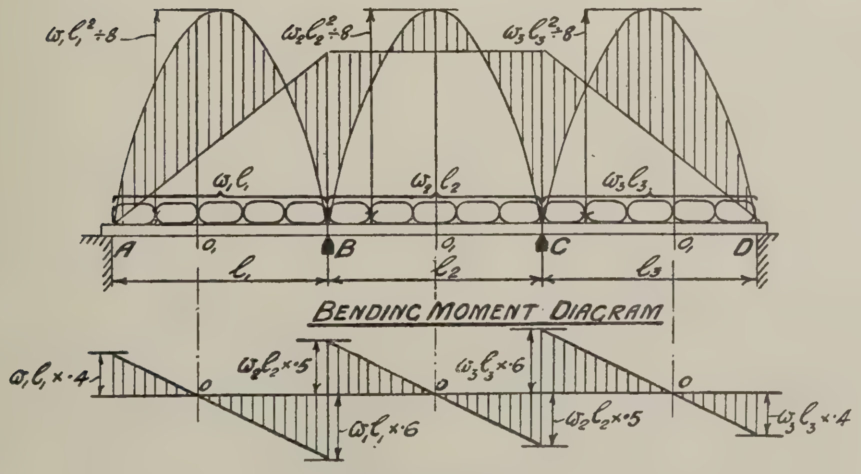
$$S_{BR} = +\frac{wl_2}{2}$$

$$\therefore R_B = S_{BL} + S_{BR} = \frac{wl}{10} + wl = \frac{11}{10}wl.$$



SHEAR DIAGRAM

FIG. 1



SHEAR DIAGRAM

FIG. 2

By similar methods it can be proved that the shear at A or D is $\frac{4}{10}$ wl. Also that the reverse bending moment over the central pier of a continuous girder of two equal and equally loaded spans l is $\frac{wl^2}{8}$ and that the central and end reactions are $\frac{5}{4}$ wl and $\frac{3}{8}$ wl respectively.

It would be theoretically correct to make the central span longer than the side spans; but it is seldom done. The possible condition of loaded side spans and unloaded central spans renders it undesirable to make the latter too flexible.

R.I.B.A. Council Meeting

The following business was transacted at the last meeting of the Council of the R.I.B.A.:

The Office of Works.—The Council approved a recommendation from the R.I.B.A. Office of Works Committee that a deputation should be sent to the First Commissioner of Works.

The Scale of Fees for Housing Schemes.—It was reported that the Director of Housing, Sir Charles Ruthen, had consented to receive a deputation to discuss all outstanding questions connected with the scale of fees for housing schemes.

The Ken Wood Preservation Council.—The president was appointed to represent the Royal Institute on the Ken Wood Preservation Council.

The Honorary Associateship. — The Council directed the secretary to summon a special general meeting to consider the proposed alterations in the by-laws affecting Honorary Associates.

Rapid Testing of Steel and other Metals.—The Council approved a recommendation of the Science Standing Committee that a demonstration should be made at a general meeting of the Royal Institute of a new machine for rapidly testing steel and other metals.

Appointment of Examiners.—On the recommendation of the Board of Architectural Education the Council appointed the examiners for the June examinations.

The Annual Dinner and Conference of the Franco-British Union of Architects.—In view of the industrial situation it was decided to leave in the hands of the president the question of postponing the annual dinner and the conference of the Franco-British Union of Architects.

University of London Report

According to the report of the principal officer, Mr. E. C. Perry, on the work of the University of London during the year 1920-21, the total admissions by all channels numbered 6,728, as compared with 3,852 in 1913-14, and 6,295 in 1919-20. Of these 4,738 entered through the ordinary matriculation examination; 290 as graduates of other Universities, 545 as holders of Oxford or Cambridge Senior Local certificates, 286 as holders of other approved certificates, and 869 after examination. The total number of candidates for all examinations was 23,563, as against 11,920 in 1913-14, and 18,352 in 1919-20. The total number of successful candidates at all examinations was 8,094.

"Architecture and Travel"

The second of the series of popular Thursday afternoon lectures arranged by the Literature Committee of the R.I.B.A. has been held under the chairmanship of Sir Aston Webb, P.R.A., when Mr. F. C. Eden delivered a lecture upon "Architecture and Travel."

Mr. Eden commended an intelligent interest in architecture, because it must matter to everybody, as it was always with us, and could not be taken or left as could poetry, painting, and the other arts. The study of architecture was not only in itself fascinating, but enormously enhanced the pleasure of travel. An essential feature of acceptability in building was unity, and slate or galvanised iron roofs did not make for that; still less, however, did they want a ruined roof. Innumerable buildings in Italy that were just places dropped, as it were, by the wayside, were an exemplification of the unerring instinct for making a place fulfil its purpose and be beautiful to the eye at the same time. With the aid of photographs thrown on the screen the lecturer took his audience on a tour which exhibited the marvels of the Oropa Sanctuary, near Biella, and of Varallo, Oria, and Varese on the Italian lakes.

Sir Aston Webb said that he felt very strongly that travel should not be undertaken until considerable knowledge of architecture at home had been acquired. From the architectural point of view he deprecated what was often the effect of clearing away the small dwellings that had encroached on the French cathedrals, and he thought that Sir Paul's, surrounded by other buildings and approached by narrow streets, was, in its effect, one of the finest buildings in the world. A piazza round St. Paul's would considerably spoil it, as Salisbury Cathedral had had its effect diminished by the openness of its situation.

Great Northern Hospital Bazaar

Princess Alice Countess of Athlone has kindly consented to open the Crewe House Bazaar (in aid of the Great Northern Hospital) on Thursday, June 2, at 3 p.m.

The following ladies are assisting as stall holders: Fancy Stall: Lady Sargant, R.R.C., Lady Beale, Mrs. Hutchinson, and Mrs. Grove Johnson. Garden Produce, Accessories, and Fancy Stall: The Hon. Lady Lawson Johnston, Miss Lawson Johnston, and Mrs. Arthur Beale. Household Requisites: The Hon. Mrs. Burn, O.B.E., and Mrs. Hegarty. Fancy Stall: Mrs. Bell Davies and Miss Beale. Bag Stall: Mrs. Campbell Couper, Mrs. Roget, and Mrs. Browne. Miscellaneous Stall: Lady Worsley and Lady Henry Seymour. Hat Stall: The Lady Belper. Provision Stall: Lady Colefax and Mrs. Austen Chamberlain. Toilet Requisites: Lady Moira Lyttleton. Musical Instruments: Mrs. Herman Darewski. Sweet Stall: Lady Dufferin and Ava. Fruit Stall: Lady Dunsford. Flower Stall: Mrs. Philip Napier and the Misses Grainger Stewart. Miscellaneous Stall: Miss Hamar Greenwood. League of the Roses Stalls: North Division, Mrs. R. Wortley, Jr.; South Division, Mrs. Cooksey; East Division, Miss Garrett; West Division, Mrs. Rogulski; Highgate Division, Mrs. E. S. Daniells.

Gifts towards furnishing the stalls will be heartily welcomed by these ladies.

Book Notice

"*What You Want to Know.*"

This short title of the little book before us seems to suit it rather better than its full title, "What You Want to Know about Building," is very agreeably (on the whole) augmented, *passim*, by very much of what you may or may not want to know about the builder—to speak more precisely, about the writer of the book. He recounts in some detail his rise from a builder's apprentice to the proud position of clerk of works, and the recital cannot fail to do excellent service in stimulating ambition, in showing how it may be realised, and in affording a clear view of the conditions of continuance in this exalted post. Architects need not be told that a competent clerk of works must not only have a thorough knowledge of all the practical details of building, but must be always instantly ready to apply his knowledge with unfailing tact and good temper. In all these respects the author of the book seems to be splendidly equipped, and his little book is a storehouse of sound information and shrewd advices conveyed in a pleasant personal way; and there is an appendix of memoranda, weights and measures, and recipes.

What You Want to Know in Building, from Journeyman Builder to Clerk of Works. A Practical Guide for all aspiring Building Trades Artisans With Hints and Suggestions in Up-to-Date Methods. By a Practical Man. Edited by A S. Bedingfield. London: J. M. Ouseley and Sons, Ltd., 9 John Street, Adelphi, W.C.2. Price 3s.

Wages in the Building Trade

The National Wages and Conditions Council for the Building Industry has issued the following communication: The National Wages and Conditions Council has considered the reference to it of the notices pending for alterations of wages and conditions, and although owing to the complexity of the matters submitted the Council has not yet completed its labours upon them, it has come to the following decisions thereon and has adjourned until May 31, when it expects to be in a position to complete the business.

The Council had before it the fact that upon the present day cost of living there is warrant for a reduction under the sliding scale of 3d. per hour, but as an interim award the reduction indicated in the first resolution has been given.

"That the wages of craftsmen and labourers be reduced 2d. per hour, as and from May 16.

"That the wages of labourers be reduced a further 1d. per hour as and from July 1.

"That this meeting stand adjourned until May 31, when the difference between the rates of craftsmen and labourers wages may be further considered and decided.

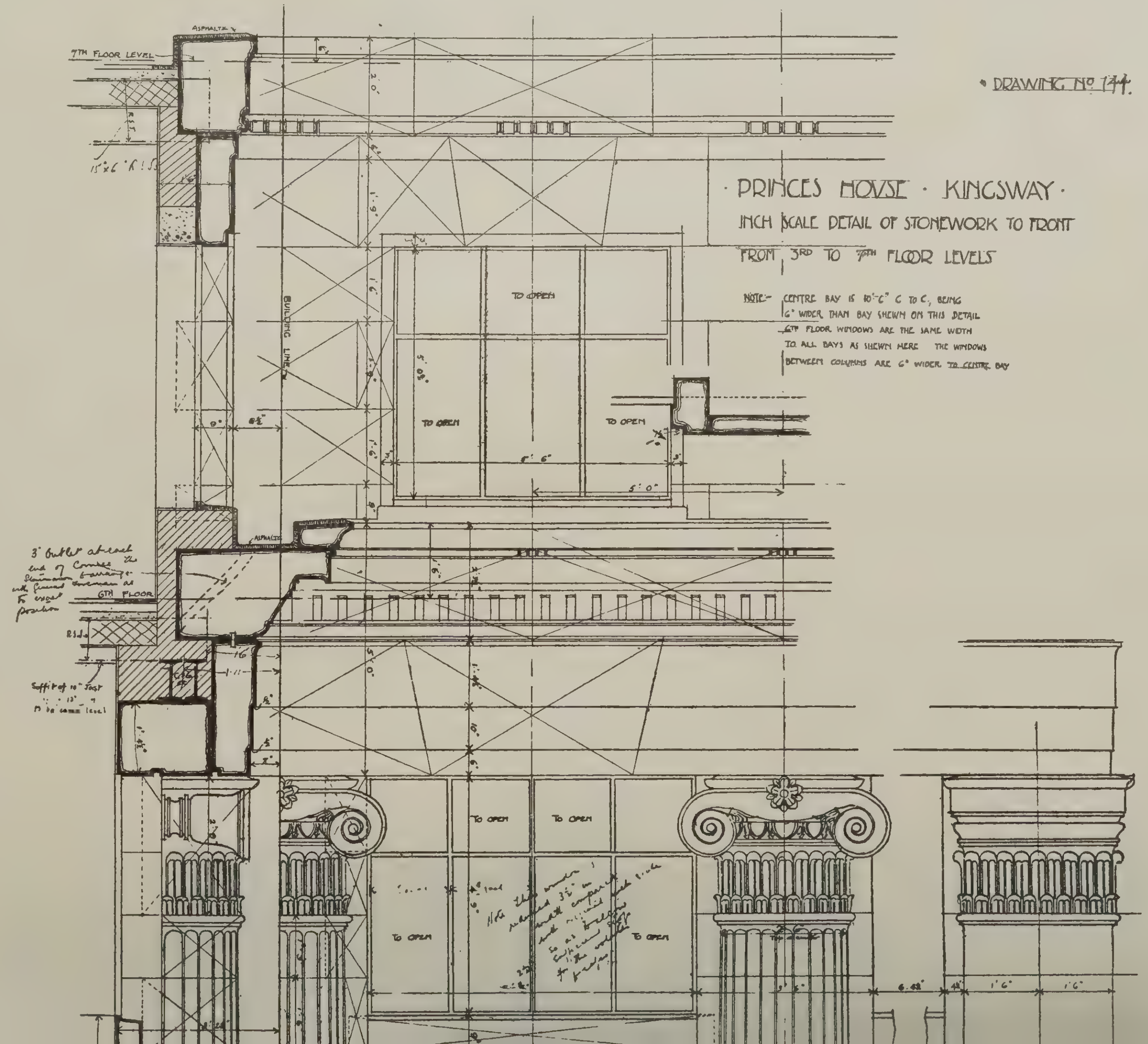
"In the interim a joint committee of employers and labourers, together with a representative of the National Federation of Building Trade Operatives, meet to enquire into the operation of any reduction of the labourers' wages and the effect such reduction would have on the lower-paid districts in order that the minimum shall not fall below an agreed amount.

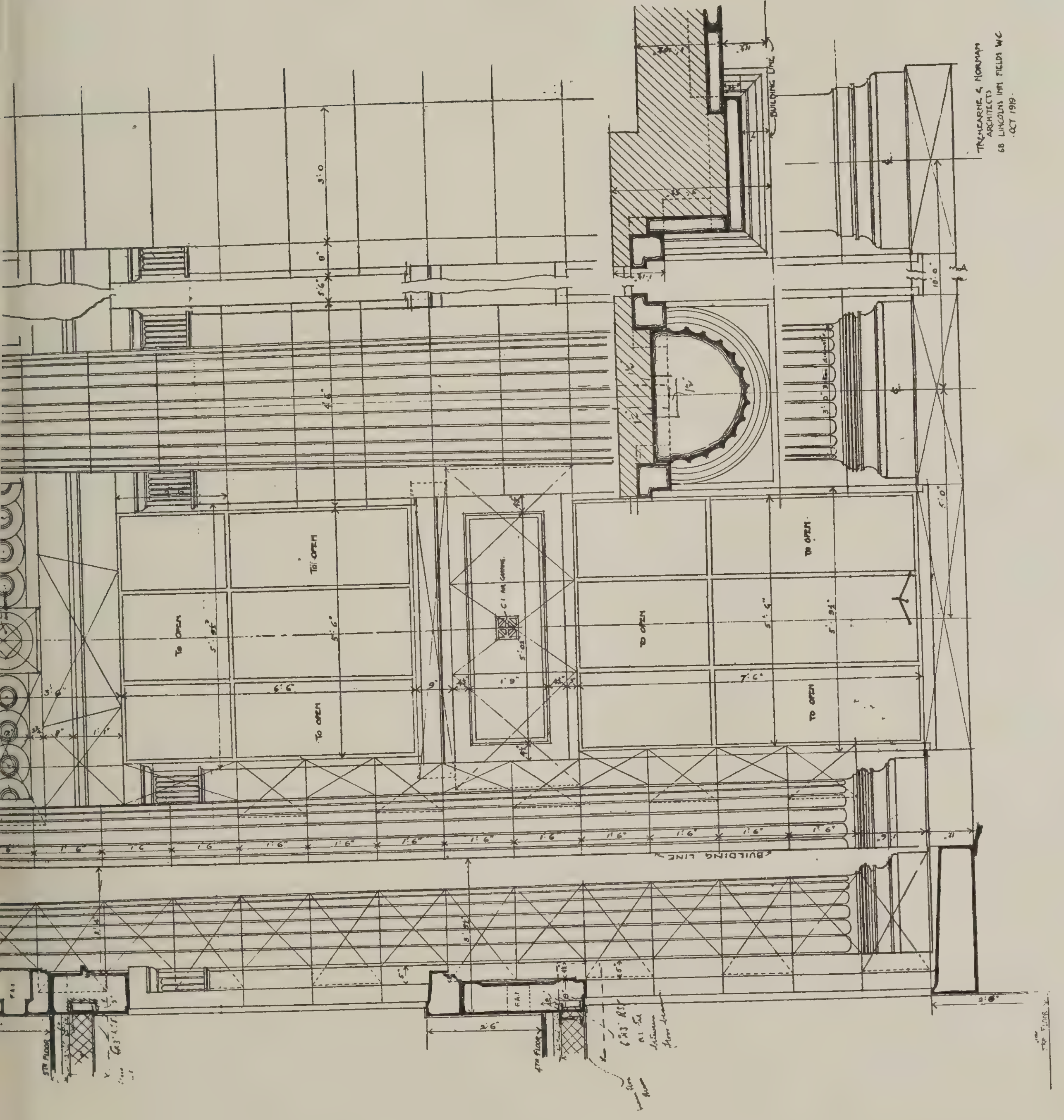
"That both parties meantime endeavour to arrive at a recommendation as regards hours to be considered at the July meeting of this Council."

A. G. White,
R. Coppock,
Joint Secretaries.

Architects' Working Drawings. 36.—Princes House, Kingsway, London : Detail of Order to Front Elevation

Trehearne and Norman, Architects


DRAWING Nº 144.
· PRINCES HOUSE · KINGSWAY ·
INCH SCALE DETAIL OF STONEWORK TO FRONT
FROM 3RD TO 7TH FLOOR LEVELS
NOTE:- CENTRE BAY IS 10'-6" C TO C, BEING
6" WIDER THAN BAY SHEWN ON THIS DETAIL
6TH FLOOR WINDOWS ARE THE SAME WIDTH
TO ALL BAYS AS SHEWN HERE THE WINDOWS
BETWEEN COLUMNS ARE 6" WIDER TO CENTRE BAY
7TH FLOOR LEVEL
ASPHALTE
BUILDING LINE
TO OPEN
TO OPEN
TO OPEN
TO OPEN
TO OPEN
TO OPEN
TO OPEN
TO OPEN
6TH FLOOR
3" outlet at each end of Cornice
Soffit of 10" Joist
2'-0"
1'-9"
1'-6"
5'-0"
6'-6"
5'-0¾"
9"
1'-6"
6.48"
1'-6"



A very effective feature in the design of Princes House, Kingsway, is a large order embracing the third, fourth, and fifth floors. It will be noted that this order is not merely applied as a decorative motif, but serves a definite structural purpose in supporting the superstructure.

The Modulus of Elasticity of Concrete[*]

By Professor F. C. LEA, O.B.E., D.Sc., M.Inst.C.E.

ENGINEERING theories are only justifiable in so far as they are consistent with experience or can be directly verified by experiment, and it is of the utmost importance that the fundamental assumptions underlying the theory of elasticity and the theory of structures should be from time to time critically examined. In all calculations relating to reinforced concrete structures the all-important fundamental assumption is made that the ratio of the modulus of elasticity of steel to the modulus of elasticity of concrete is known, and for a particular structure is constant for all stresses. Mild steel, whether in compression or in tension, gives a stress-strain curve which, within the so-called elastic limit, approximates very nearly to the ideal straight line, or, in other words, obeys almost perfectly Hooke's law. Further, the value of the modulus of steel (Es) is not a very variable quantity. It is doubtful if for the kinds of steel used in reinforced concrete work, the modulus varies more than 5 per cent. from one sample to another, and the modulus of elasticity in tension probably does not differ from that of the steel in compression by more than 5 per cent.

The ordinary theory of beams and long columns assumes the ideal elastic behaviour of material, and in the case of properly designed steel elements experiment shows that within certain limits of stress the ideal assumptions are justified.

Good steel can be said to be very homogeneous as compared with concrete, which is made up of three such variable materials as cement, sand, or other fine material, and large aggregate. It is hardly to be expected that such a conglomerate will have elastic properties as perfect or as constant as the more homogeneous steel, and it becomes important therefore to determine:

(1) The form of the stress-strain curve for concrete, and thus the value and possible variation of the modulus of elasticity.

(2) What are the possible limits of error in making assumptions which are not ideally justified by experiment.

In making calculations relating to the design of beams the tensile strength of the concrete in tension is generally neglected. In columns, unless there is eccentric loading, the material is in compression.

It would appear, therefore, only necessary to determine as accurately as possible the stress-strain curves for concrete in compression, from which the ratio Es/Ec (which the theory demands to be known) can be obtained. As a check, however, it is desirable that elastic tests on beams should also be made, not only to determine the deflections produced under certain conditions of loading, but to determine the actual strains produced so that these can be compared with the ideal strains assumed, and the position of the neutral axis of the beam, as experimentally determined, compared with that given by the theory.

Another and incidental, but not unimportant, result of such inquiry will be that some light may be thrown upon the problem of the degree of uniformity of distribution of stress across the section of a strut or on lines parallel to the neutral axis on the section of a beam. The present paper gives the results of experiments that have been carried out recently at Birmingham. They are by no means complete, as owing first to the war and secondly to the very heavy pressure upon time and conveniences for experimental work since the war, progress has not been so rapid as might have been desired, but the experiments have involved a good deal of labour.

Definition of the Modulus of Elasticity of Concrete.

Before the modulus of elasticity of any piece of concrete can be stated, it is necessary to know not only its composition and the quality of the materials in the concrete, but also its previous history as far as loading is concerned.

In discussing numerous stress-chain records of the tests made, Prof. Lea said that after the first loading there is a definite permanent set in the concrete, corresponding to about one-eighth of the total strain in the concrete at 1,000 lb. per square inch. This is not very much increased by subsequent loadings. After several loadings to a particular stress the concrete becomes practically elastic within that range. During the loading and unloading, however, the stress-strain diagram has a distinct hysteresis loop, the area of which depends upon the range of stress. To obtain the actual strain likely to be produced in concrete when first loaded to any stress the value of En for the first loading is required, but to obtain the strain produced by any stress after a number of loadings the value of En for the particular stress for, say, the third loading should be known. To obtain a reasonable mean value for the modulus of elasticity for stresses between 200 lb. and 700 lb. per square inch the block should be loaded and unloaded several times and then a stress-strain diagram taken.

Effect of Age upon the Modulus of Elasticity.

From the results obtained there is no definite indication of any increase in the values of E at six or twelve months over that at three months. The stress-strain loading curves for the twelve months' blocks consist of two straight lines, the upper one of which is slightly steeper than the lower, or in other words the modulus of elasticity increased slightly with the stress.

The values of Ec of a mixture of the same proportion, but with different cement, in some cases differ considerably. This difference appears to be due less to the differences in the cement rather than to the fact that the concretes were mixed at different times by different persons. The degrees of wetness and the extent of the ramming are bound to be different, and though these are not clearly indicated in the crushing strength, they seem to show in the more delicate stress-strain tests. In such a non-homogeneous material as concrete, where so much depends upon the mixing, ramming, etc., this sort of discrepancy in the results is perhaps to be expected. However, in all the above cases, no matter what the proportion, we may safely say that the values of Ec are not less than two million lb. per square inch, while in the stronger mixture the values are three and over three million lb. per square inch. At certain stresses the values of Ec are much greater than three million lb. per square inch.

The values of Ec vary as the crushing stress, and one is indicative of the other, the stronger mixture having the larger Ec.

In general it may be said that the value of Ec. in lb. per square inch is roughly 1,000 times the crushing stress in lb. per square inch.

After discussing the detailed results obtained, Prof. Lea gave a remarkably ample and complete description of the sands, aggregates, and cements used, with photographs and tests and geological data.

The apparatus used for testing was fully described with detail drawings and photographs.

Spherical seatings were used in the compression tests to obtain true axial loading. No felt or other material was placed between the blocks and the plates.

All the cubes were tested on their sides so as to obtain good flat faces in contact with the plates.

This means that the direction of the load is parallel to the plain of bedding of the concrete as placed in the mould instead of being perpendicular to it. In order to find out whether there would be any difference in the strength of cubes tested under these two conditions, the following experiments were carried out.

Sets of blocks of the same mixtures were made under the same conditions, and half of them were tested on the side, while the other half were tested on the top and bottom faces (after the top faces had been ground smooth).

The crushing strength obtained shows no appreciable difference, and the conclusion that the strength of these cubes does not depend upon the direction in which they were tested may be drawn.

The testing machine used was a 100-ton vertical machine operated by a three-phase motor. In view of this, it was not thought desirable to work the motor at any but full speed. The slowest gear was used giving the rate of loading of about 4,000 lb. per square inch per minute on the average. The rate of loading, of course, was variable, being smaller at the beginning and gradually increasing.

The percentage increase in strength with age is somewhat variable, and from the results nothing definite can be obtained, except that there is a distinct increase in strength at three months over that at twenty-eight days by about an average of 10 per cent. From three months the increase, if any, is very small and by no means definite.

The results of all tests are tabulated for convenient reference.

In addition to direct compression tests to determine the elastic modulus of concrete, Prof. Lea also carried out bending tests on beams and described arithmetical and graphical methods of deducing therefrom the modular ratio and the position of the neutral axis.

---

[*] Extracts from a paper read before the Concrete Institute.

Unequal Distribution of Stress in Concrete.

The compressometer tests on columns and also the bending tests on beams show clearly that it is very difficult indeed to ensure uniform distribution of stress in concrete. The column specimens were hand ground at the end to make them sit as smooth as possible, and they were then loaded through a spherical seating.

Table 8 shows the typical difference in the recorded strains on the two sides of the specimen on the second loading of the specimen. During the first loading the differences of the strains on the two sides of the specimen were much greater than during the second loading.

TABLE 8.

Load in lbs.	Stress in lbs.	Decrease in Length in $\frac{1}{10000}$ in.		
		Back.	Front.	Mean.
1660	101	5.78	3.08	4.43
3240	198	7.17	4.17	5.67
5260	321	9.15	6.94	8.04
7140	437	12.10	10.52	11.31
8580	524	13.95	12.74	13.34
9840	602	15.95	14.82	15.28
11470	701	18.32	17.35	17.83
12960	793	20.68	19.60	20.14
14560	891	22.90	22.00	22.45
16270	995	25.40	24.70	25.05

Taking a difference of load of 995 — 321 = 674 lb., the strains at the back give a nominal value of Ec of 3.31 and the strain at the front a nominal value of Ec of 3.03, or a difference of 9 per cent. As might be expected at small loads, the inequalities are greater than at the large loads.

In the beam experiments the differences of strain at the same distance from the neutral axes on the two sides of the beam were as great as 16 per cent. This can only be accounted for by larger stresses on one side of the beam than the other, due to the non-homogeneity of the concrete or, perhaps, partly due to the eccentricity of the reinforcement. If the reinforcement is slightly displaced, or the adhesion is not uniform on the bars, excess strain may be set up in one side of the beam.

It would appear, therefore, that in designing concrete columns and beams, however carefully these are to be loaded, an allowance for a possibility of stresses from 10 to 20 per cent. above the mean calculated stress, as given by the ordinary formulæ, should be made.

[Two appendixes were attached giving simple calculations illustrating some of the results of the tests.]

The paper concluded with an application of the results obtained to the calculation of beams and columns. From these Prof. Lea deduced the general conclusions that the use of rich concretes (about 25 per cent. cement) was more economical than poorer mixtures of about 20 per cent. cement, and that too high a value for the modular ratio was a source of danger.

Discussion

The President said that the question of the modulus was most fundamental, and there were two schools of thought. There were those who would give an elastic modulus depending upon every quality of concrete in its various proportions. On the other hand, there were those who thought they should take into account the modulus of the material so far as it might be known.

Mr. F. E. Wentworth Sheilds, O.B.E., in proposing a vote of thanks, said Professor Lea and those who had assisted him had obtained very useful results. A good deal had to be done before one could see what practical use was going to be made of it, but Professor Lea had suggested one practical outcome. He had told them that they, perhaps, ought to alter their sacred 15, which they had stood by for so many years.

Mr. H. J. Deane, M.Inst.C.E., in seconding the vote of thanks, said the whole matter of determination of the neutral axis depended on the ratio of the moduli; but the main thing the structural engineer had to deal with was the question as to whether his structure was going to stand up or not. Another thing to be considered was the question of what would the concrete stand. The factor of safety was their salvation every time, and if they had not that factor of safety a good many of them would not have been there to-day.

He instanced the care necessary to obtain constant results when testing cement briquettes, and suggested that as engineers they should endeavour to get similar consistency in concrete, say within 10 per cent.

Dr. Faber said that a very important question indeed seemed to be ignored in the paper which might in his opinion radically alter the conclusions to be put on the results of researches.

He referred to the question of plasticity. Prof. Lea seems to start off with the assumption that concrete has an elastic modulus. In other words, that for any definite stress there is a corresponding definite deformation or compression. The question of time does not appear to have entered his experiments at all except in so far as it affected the age of the specimens.

It appears, however, that concrete, according to certain recent tests, may not be an elastic substance in the ordinary sense at all even for comparatively small compressions, but that the amount of the compressions goes on increasing with time.

In a building, for example, the stress is applied to a column and continues for years, and if concrete shows any plasticity the effect of deformation will depend very greatly on the length of time under which the specimen has been subjected to stress.

It has been found by tests that the deformation comes under three heads: (1) Shrinkage; (2) elastic deformation; (3) gradual yielding in time.

In regard to the first, it appears that concrete gradually shrinks about .05 per cent. of its length in about sixty days, and after this the shrinkage is comparatively negligible. If we take the elastic modulus of steel as 30,000,000, it follows that in a reinforced concrete column owing to this shrinkage the steel will have a stress of 15,000 lb. per sq. inch before the concrete receives any stress whatever. In other words, the effect of shrinkage is to subject the concrete to tension and the steel to compression. When the load is first applied the effect is gradually to neutralise the tension in the concrete, and still further increase the stress on the steel, and when sufficient compression has been applied it brings the tension in the concrete back to zero and the compressive stress on the steel should, on these figures, be about 15,000 lb. per sq. in.

Coming to the elastic compression about which Professor Lea's Paper concerns itself, his results agree in the main with other experiments which have been conducted in the same general way, and it is to be noticed that the figure he arrives at gives a modular ratio nearer 10 than 15, but in these experiments the concrete had very little time to yield.

Dr. Faber quoted numerous examples of plastic yielding measured in America.

Mr. A. R. Lord found that in fifty-five days the deformation was 2.4 times as great as when the load was first applied, while in 230 days it was 5.2 times as great and in 380 days it was 6.9 times as great.

This question of yielding must receive a great deal more consideration than it has hitherto received. Apparently we do not yet know the limit of this yielding, and until we do the distribution of stress in a concrete column after several years of carrying its load would appear to be something absolutely different, different to the extent of 700 per cent. or 800 per cent., from results arrived at based on the elastic modulus of concrete measures on short time tests. It appears that in all probability a column left for a long time under load will gradually transfer stress on to the steel until the steel reaches the yield point and the rest of the stress will then be carried on the concrete.

Mr. Percy J. Waldram quoted some early experiments on the modulus of elasticity carried out by the French Government. It would appear that Professor Lea had been testing rather richer concretes than those tested by the French Government, and his work, therefore, formed a very valuable completion of this original work.

The reduction of the modulus of elasticity from, say, 15 to any figure like 10 or 8 pre-supposed that the stiffness of the concrete would be more nearly approaching the stiffness of the steel, and, therefore, the concrete would assume to itself a larger proportion of the joint load shared between the two. As it picked up a greater proportion of the load, it naturally reached its limit of strength more quickly.

It was a most important point that they should consider not only the fact that if they used too high a value for the elastic modulus they were under-estimating the strength on the concrete, but, on the other hand, if they used too low a value they were seriously under-estimating the strength of the steel.

The revolutionary suggestions made by Dr. Faber as to the modular ratio meant that instead of designing in concrete reinforced with steel they ought rather to design in steel reinforced with concrete, making the structure a complete frame of steel encased by fire-resisting concrete, and taking due credit for the increased strength and fitness due to the concrete.

Mr. H. E. Smith (National Physical Laboratory) mentioned that tests on concrete had lately been carried out for the Office of Works, in which a certain amount of attention had been given to the measurement of the elastic modulus. So far as they had found that the behaviour of the concrete was exactly as indicated by Professor Lea in every respect.

Mr. H. Kempton Dyson said that Dr. Faber had referred to the effect of time in loading a specimen producing increased deformation. The author had also shown that the second and third times of loading gave a greater deformation, and, further, that when the stress was increased considerably, an appreciable increase in the deformation was noticed while the experiment was going on. In experiments which he himself had carried out some years ago it was seen that when the stress on the specimen was considerably increased there was a great increase of strain if the load were left on, and that made it difficult to determine what was the real elastic modulus at high stresses.

An interesting fact that Professor Lea brought out was that the modulus of elasticity increased slightly with the stress in the twelve months' blocks. That was quite different from what was expected, and if the paper did nothing else, it gave some data on that which they had never had before. It was said that the modulus of elasticity was roughly 1,000 times the crushing stress in lb. per square inch. The author had shown in the diagrams, however, that when a concrete was tested at a later date, twelve months instead of three, although the strength of that concrete was greater, the modulus was no greater; if anything, it was less. Although that rough rule might apply to the three months' tests, it did not seem to apply to the twelve months' tests. The modulus did not seem to go directly as the increase in compressive resistance of the concrete, and they must look for further experiments to see if that was confirmed.

Mr. Alfred S. Grunspan, A.M.Inst., C.E., B.Sc., A.C.G.I., asked whether the variation of the modulus in concrete had been studied with varying sizes of aggregate. The fact that there was a big hysteresis load showed that concrete absorbed work when it was stressed, and work put into the concrete, therefore, made it stronger. He would like to know whether any experiments had been made or contemplated with a load suddenly applied and quickly removed at the same time, which very often happened on bridges. He, personally, thought that a properly designed concrete beam under such conditions behaved better than ordinary steel girders.

Professor Lea, in replying to the discussion, said that Dr. Faber, in his contribution, was only touching a fact probably fundamental to a great many other subjects. He (Prof. Lea) had pointed out that within the time during which the experiments were carried out certain results were obtained. If the experiments had been spread over a period of twelve months he would certainly have obtained something different. As to whether Dr. Faber had really put his finger upon the real fact, that the creep in concrete at the ordinary stresses met with in structures was so tremendously important as he had indicated, he would not like to be sure. Mr. Grunspan had asked about variation of the modulus in concrete with varying sizes of aggregate. Experiments had been started in this direction, but this research was long, expensive, and tedious.

Publications Received

Modern Practical Joinery: A Comprehensive Treatise on the Practice of Joiner's Work by Hand and Machine. By George Ellis. Price complete, £2 5s.; or in three separate volumes. B. T. Batsford, Ltd., 94 High Holborn, London, W.C.1.

Practical Geometry for Builders and Architects. By J. E. Poynter. (The Directly-Useful Technical Series, founded by the late Wilfrid J. Lineham, D.Sc., M.Inst.C.E.) Price 15s. net. Chapman and Hall, 11 Henrietta-street, Covent Garden, W.C.2.

The New President of the Northern A.A.

Mr. T. R. Milburn, F.R.I.B.A., who has been elected President of the Northern Architectural Association for the current year, is a native of Sunderland, and served his articles with the late Mr. John Tillman, who was president of the Association in the years 1881 and 1882. Mr. Milburn afterwards worked as an assistant in the architects' department of the Liverpool Corporation, where he was engaged on the plans of the Liverpool workmen's dwelling scheme and other municipal work. For some time afterwards he was associated with the development of extensive building estates in the borough of Sunderland, and in the year 1885 commenced practice for himself.

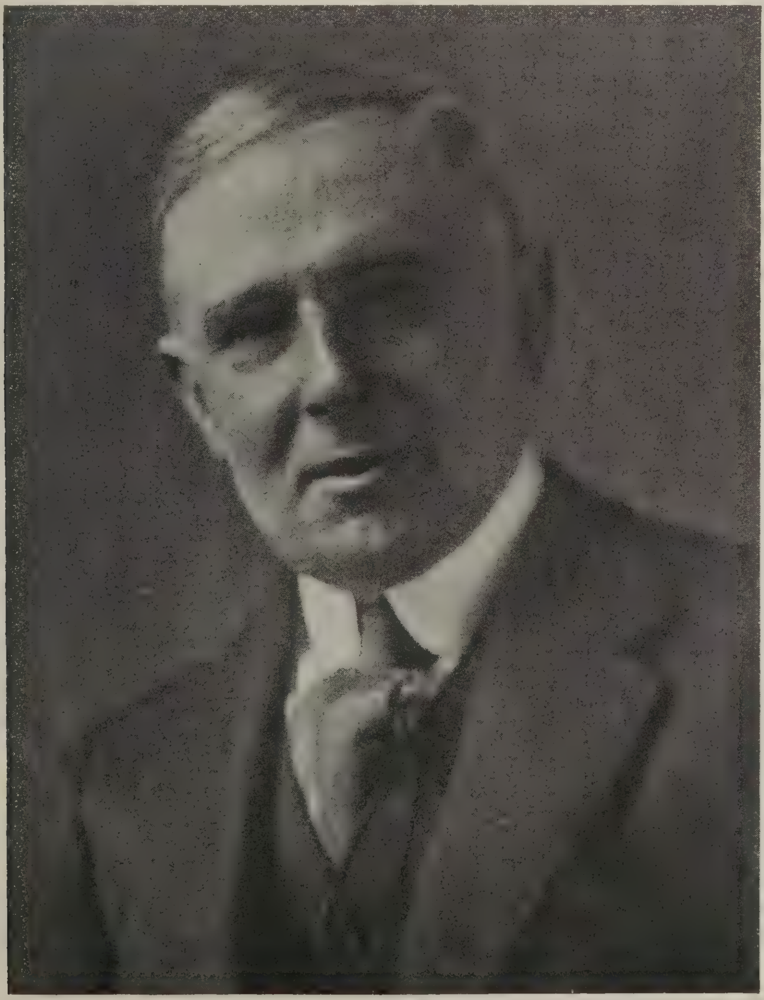
Mr. Milburn sat for the qualifying examination of the R.I.B.A. in 1886, and was elected an Associate in 1887. He entered into partnership with his brother, Mr. Wm. Milburn (also a former president of the Northern Architectural Association) in 1897 in the firm of Wm. and T. R. Milburn, who since that date have been responsible for the erection of many large buildings in Sunderland district and other towns. Some of the larger buildings designed by the architect's firm include the Sunderland Poor Law Infirmary buildings and extensions for the Sunderland Union, the new water company's office, Sunderland police-courts and fire brigade station (in conjunction with Messrs. Wills and Anderson), Sunderland War Hospital, many large school buildings and industrial undertakings, the Sunderland, West Hartlepool, Shields, Stratford, West Ham, and Cardiff Cinema Theatres, and many other smaller theatre buildings.

In the Cardiff Empire Theatre, completed in 1915, Mr. Milburn carried out a treatment on strictly Greek architectural lines, which breaks away from the superfluous ornamentation of theatres so often prevailing, and he has ideals for the restraint, simplicity, and more correct architectural treatment of the theatre of the future.

For many years Mr. Milburn has been an active member of the Northern Architectural Association, and he looks forward to the support during his year of office of Mr. G. T. Brown, F.R.I.B.A., past president and now hon. secretary, who takes the closest interest in the welfare of the Association.

The aims of the president in connection with the Association are to encourage the bringing of the practising members into closer touch, to continue and encourage the extensive educational work of the younger members, and more particularly to increase the fellowship between the societies and the R.I.B.A. He feels that better representation of provincial members should be obtained in the higher offices of the R.I.B.A. and would like to see the allied societies even more fully associated with the great work of the R.I.B.A. Mr. Milburn's views are that with a membership of 3,250 the allied societies ought to make some strong effort for better unification with the R.I.B.A., and that the profession's standing with Government departments and local authorities should be strengthened.

Mr. Milburn is shortly visiting America in connection with a large building scheme about to be carried out by his firm in Liverpool.



MR. T. R. MILBURN, F.R.I.B.A.

(Recently elected President of the Northern Architectural Association.)

Young Plumbers Visit Selfridge's New Buildings

The new scheme for the apprenticeship and training of young plumbers, recently launched by the President of the Board of Education in conjunction with the Worshipful Company and Institute of Plumbers, under which practical demonstrations at notable works in progress is to form an integral part of the training of the young entrants to the plumbing trade, was pleasantly anticipated on a recent Saturday afternoon, when, by the courtesy of Mr. Gordon Selfridge, a number of students from the plumbing classes at the Redhill and Reigate Technical Institute of the Surrey County Council, made an inspection of the sanitary works in connection with the new buildings now in course of construction for Messrs. Selfridge and Co., Ltd., in Oxford Street, W.

The party, numbering about twenty, were received on the works by Mr. L. C. Stokes, of Messrs. Graham, Anderson, Probst, and White, the architects, to whose designs and specifications the sanitary work is being carried out, and by Mr. Stitson of Messrs. Stitson, White and Co., of 102 Victoria Street, Westminster, who have been entrusted with the work.

The sanitary works in connection with these vast buildings were described by Mr. Stitson at the outset as being unique in many respects. The water supply for the completed building will be obtained from deep wells, the borings of which will penetrate the various strata of water-bearing chalk, from whence it is pumped to reservoirs. From these reservoirs by means of duplicate pumps—one steam and the other electrically driven—each capable of delivering 15,000 gallons per hour, it is raised to the various storage tanks on the roof, from which a suitable "head" is derived for the supply of all services and fittings by gravitation.

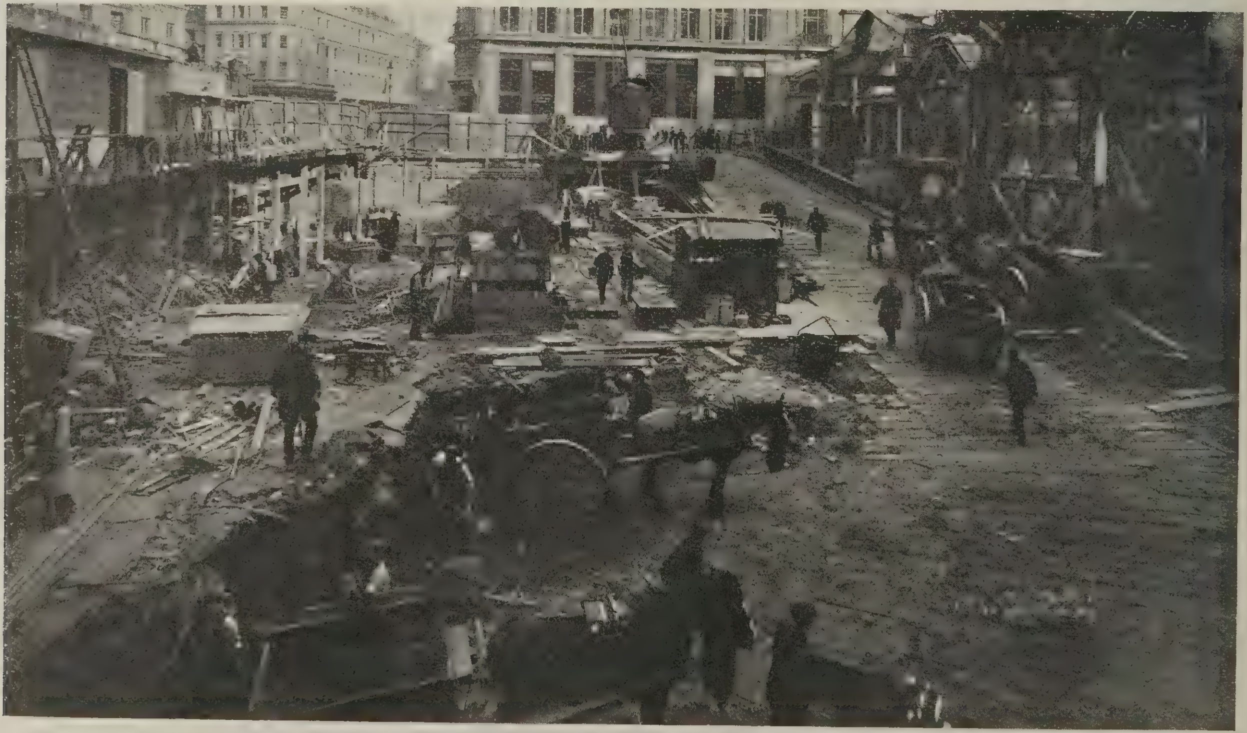
The water at present obtained on the site is of very satisfactory quality, and contains about five degrees of hardness. Screwed galvanised barrel piping, in view of the particular characteristics of the job, is the material adopted for the main services throughout the building. A considerable portion of the branch services will be carried out in copper. Separate services, varying from 4 in. to 2 in. in diameter, are provided to the w.c.'s, the urinals, and to the lavatory basins in the toilet and hairdressing saloons, also to the steam boilers. The total number of water closets for which provision is made is 121, urinals twenty, and lavatory basins 241. In addition, there are many auxiliary fittings of various kinds.

There being practically no open space on the site, the whole of the drainage system is inside the premises. It is constructed of cast-iron, and suspended from the ceiling of one of the basements, of which there are three. The two lower basements, including the boiler house, are below the level of the public sewer, and the surface water is drained to a sump, which is emptied by an electric pump automatically operated. Separate drains are provided to deal with the rain water from the roofs. These are of 9 in. diameter; all other main drains are of 6 in. diameter, with 4 in. branches. The soil pipes are constructed of specially cast heavy iron pipes with caulked joints, this being the material most suitable to the special nature of the job. In addition, the anti-syphon pipes are of 3 in. and 2 in. galvanised screwed iron tubing, as are also the main waste pipes.

A notable feature of the work is the special accommodation provided for all pipes and fittings in connection with the water closets, which it is desirable to hide from view, and at the same time leave accessible. This difficulty is met by the provision of "plumbing spaces" about 2ft. wide between all ranges of w.c.'s, in which all pipes and accessories are placed. In this way the objectionable feature of the flushing cistern—always ugly however treated—is overcome, and the w.c. apartment contains nothing but the basin and a neat handle with a quarter-turn movement. The branch soil pipes are similarly hidden from view by a false ceiling to the storey below. An apartment is thus formed in which plumbers can work at any time. Inside these "plumbing spaces" are situated all stop-cocks, whether for local or remote control. The system permits adequate fall to all pipes which require it; prevents crowding—and consequent difficulty in effecting repairs—and is worthy of more general adoption.

The domestic hot-water supply apparatus, also being installed by Messrs. Stitson, White and Co., is based on a very large demand for hot water when the buildings are in complete occupation. To meet this, three large storage calorifiers have been laid down and circuit pipes run to the various departments. Steam is supplied to the calorifiers from the high pressure header connecting the boilers through a pressure reducing valve, so that the water is heated by steam at practically atmospheric pressure. The boilers also generate steam for many other purposes. Hot-water supply to the ladies' and gentlemen's hairdressing saloons has received particular attention with a view to obtaining a constant flow of water at an even temperature. It is anticipated the arrangements in this

The Dickins & Jones Building, Regent Street: Progress Photograph No. 3



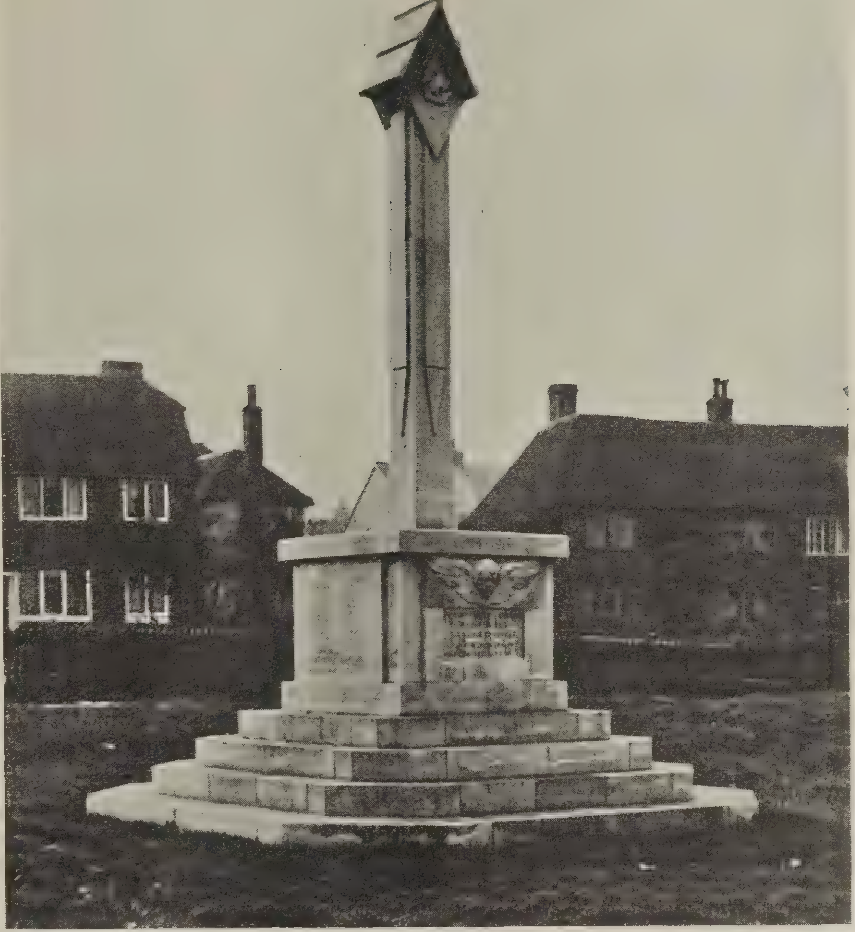
Higgs and Hill, Ltd., Builders.

This photograph (published by courteous permission of the architects, Messrs. Henry Tanner) shows the condition of the site on April 30. Earlier progress photographs were given in our issues for April 13 and 20. The pulling down was begun on March 4 of this year, and the site was cleared to the pavement level on March 30. On April 30 the site was cleared to the basement level, and 3,000 yards of excavation had been completed in connection with the extra basement. The first section of the temporary shop-fronts facing Regent Street was opened on April 21.

direction, like all others throughout the buildings which might lend themselves to fluctuations in the event of the failure of the human element, have been rendered as self-controlling and fool-proof as possible. Provision has been made for a minimum of 8,000 gallons of water to be used at 180 deg. Fahr. every hour.

The inspection of the works—of which the foregoing is a brief description—consolidated a very enjoyable and instructive demonstration, the success of which was much enhanced by the lucid explanation of all mechanical points by Mr. L. C. Stokes.

At the close, Mr. Henry H. Clay, who was in charge of the party, said that in spite of the lateness of the hour he wished, on behalf of the students, to express their cordial thanks for the kindness of those at whose invitation the demonstration had been held. He ventured to say that Mr. Gordon Selfridge had not only made a notable contribution to the architecture of the metropolis, but, in co-operation with the experts to whom he had entrusted the works, he had ensured the construction of a sanitary system which would be an admirable example of the progress which the all-important craft of the plumber had made in recent years.



WAR MEMORIAL AT TENTERDEN, KENT. W. WRIGLEY DIGGLE, ARCHITECT.

Houses Built to Suit Women

(From a Correspondent)

Are the women of the South of England satisfied with the houses they have to live in? I can hardly think so, and I imagine this discontent would become feverish if they could see the average home to be found in the West Riding of Yorkshire.

Yorkshire women understand fully all the needs of the housewife. No women in England are more domesticated. And, as a result, they see to it that they get houses properly equipped to meet all domestic needs. Is the lower standard of convenience in the South due to a lower standard of domesticity? That may well be the case, but as it is not vital to the issue it need not be urged. What is of practical value is a description of some of the special advantages the Yorkshire houses possess.

In the first place there are the excellent kitchen ranges. They are always efficient. How many do their work properly in the South? Again—and this is a point which will appeal to every housewife—they are raised, to prevent constant stooping in cooking. That is clearly of great importance. It eases the strain of a woman's work, and there is no excuse for the ground-level ranges, which only add to the labour of the house. Further, many of these northern ranges can be cleaned with furniture polish and only a little black lead for the bars of the grate. Again this is valuable labour-saving. Only those women who have to rub the steel and blacklead the oven and other parts of the kitchen range can fully appreciate what it means.

Another convenience is what is known as the clothes-cradle. It is a large square wooden frame, laced with strings, which hangs just below the ceiling. The "cradle" can be raised or lowered by the use of pulleys. It is easy to lower it, place the clothes to be dried over the lines, and then raise it again well out of the way. It involves no heavy lifting, and does away with the clothes-horse, which on a wet washing day monopolises the kitchen fire. Is it too much to suggest that a "clothes-cradle" should be a fixture in every kitchen? What may not appeal as a practical arrangement down South, but is common to most of the houses in the West Riding, is a cool food cellar with a large stone slab, like a table, in the centre, and stone shelves. Yet these cellars are excellent pantries.

Many of the houses have also a wash-kitchen built in the yard. It is a great boon, for it keeps the washing—and the inseparable steam—clear of the houses. The yards also are stone-paved, and make splendid drying-grounds, being always fairly dry under foot. There may be objections to the idea, but it would seem that for cottage property communal wash-kitchens and drying-grounds—these with asphalte or cement flooring and lines worked by pulleys—would be a great boon.

A final word might be said about the fact that even the West Riding cottages have porcelain sinks and drainers. And there is no question that as a general rule the houses are better built than in the South.

Tenterden War Memorial

The war memorial at Tenterden, Kent, illustrated on this page, stands on the green in the centre of the High Street. It is carried out in Portland stone. The total height is 20 ft. The names are inscribed on the three panels at the base. The ship, at the head of the shaft, is the crest of the town, which is one of the Cinque Ports. The memorial was carried out by Mr. Nat. Hitch, of 62 Harleyford Road, S.W., from the design of Mr. W. Wrigley Diggle, who is to be congratulated on a very dignified piece of work.

English Forestry Association

At the annual meeting of the English Forestry Association, Mr. J. S. Corbett, the secretary, said that it was proposed to wind up the present Association and start a new one, which he was certain would have a great future. The new Association would be registered as a trading society. On a voluntary basis it was impossible to reorganise forestry and to persuade the owners of woodlands to replant areas which had been cut down for the war. Seedlings, transplants, and other requirements incidental to forestry must be available at the lowest possible cost. Their present stocks of seedlings and transplants which would be available next winter were sufficient to reafforest 3,600 acres. This was a good beginning, and they hoped considerably to increase the number in future years. At the present moment few big dealings in timber could be effected without the payment of unnecessary commissions between the consumer and the producer. One of the principal objects of the Association would be to eliminate "unnecessary" middlemen's profits, and he had every confidence that that would be the result of their work.

Country House and Institutional Sewage Purification

THE changes that have taken place in the thought and outlook of the country during the six years from 1914 to 1920 have not been confined to political and industrial affairs, a demand has arisen for better conditions of life as a whole. The urgent need of new houses is in the minds of all, and the tendency amongst all classes is to decentralise and to endeavour to live under more rural conditions.

Six years ago the prospective builder or purchaser of a country cottage visiting the "Ideal Home" or "Building Exhibition," was prepared to put up with the primitive rural standards of sanitation, and a cesspool, with all its obvious objections, was accepted as a necessary nuisance. At similar exhibitions held within the last twelve months the number of those desirous of finding a country dwelling has vastly increased, but the number of those who acquiesce in the usual country lack of sanitary amenities has almost disappeared.

Out-of-date By-laws.

The usual rural by-laws, which provide that a house shall have a proper drainage system which shall connect to a cesspool situated not less than 60 ft. from the dwelling, are obviously out of date. Public opinion has advanced beyond this, and they should be amended. The large sewage purification works carried out during the past twenty years for urban communities by the public surveyors and civil engineers of the country have proved that purification can be carried to any extent desired. The system has become almost standardised, and required results can be achieved with certainty.

The conditions for a purification scheme to deal with, say, 150 gallons of sewage daily from a cottage, or 1,000 gallons daily from a country mansion, are different from those pertaining to the treatment of 50,000, or 500,000, or 5,000,000 gallons daily from urban or civic communities, but the principle is the same in each case, and the certainty of success is equal if necessary knowledge, care, and experience are utilised.

In each case the system may be divided into three operations:

(1) Digestion, or precipitation or sedimentation of the crude sewage by means of tank treatment.

(2) Oxidation of the tank liquid and consequent purification by means of bacterial filter beds.

(3) Settlement of effete or mineralised organic matter should follow, by means of final humus chambers, after which the resulting effluent may pass to a ditch or stream, or the surface of the land, or to subsoil drains, or even to artificial lakes or ponds.

Essential Requirements.

In considering the small private installations to deal with from 150 to 5,000 gallons daily, the latter volume, say, from a hospital or hotel, there are three points which should be carefully borne in mind, although they may be largely ignored by the designer of an extensive public sewage works.

(1) That the plant must be automatic in action, and only require attention at occasional intervals and by an unskilled man.

(2) That the sludge or scum residuum should be reduced as far as possible by encouraging to the utmost the digestive processes rather than sedimentation or precipitation, and by increasing the relative capacity of the oxidising filters so as to automatically get rid of the larger proportion of solids in solution and suspension.

(3) That owing to the probable near proximity to house or garden, there must be no chance of smell from the purification plant.

It is impossible in so short an article to go fully into the importance of these considerations or to describe in detail the methods which have been adopted to secure these results, but in practice the writer has set up the following standard, which should be quite possible of achievement in a country house and institutional installation.

(1) That the attention required should be within the capacity of any man about the premises, and not take more of his time than about half an hour once a month and one hour three or four times a year, the work being such that the writer would not hesitate to do it himself in an ordinary gardening suit of clothes.

(2) That the amount of scum or sludge residuum to be finally disposed of, probably for manurial purposes in the garden, should not exceed a barrow load two or three times a year from a purification plant to deal with the sewage from a dozen persons. This should be well digested and not more objectionable to deal with, and of equal horticultural value to well-decayed cow dung.

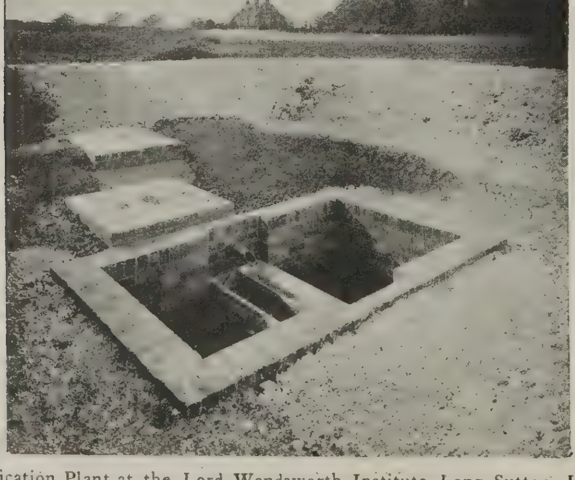
(3) That a purification plant should be so designed that it may be placed within 10 or 20 ft. of a dwelling-house without causing any offence either to sight or smell.

The writer would make mention of several conclusions which have been forced upon him by a very considerable volume of experience.

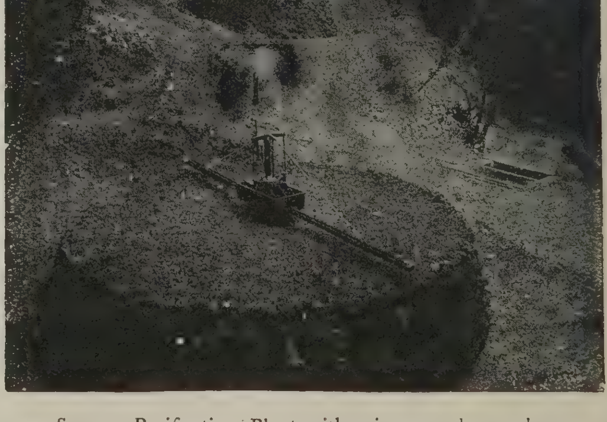
Tanks, whether so-called septic or semi-septic, or digestive, should be of smaller capacity than is often considered necessary, and in these days of high constructional costs this is a useful point to remember. They should be deep rather than of considerable area, and the flow should be, as far as possible, vertical rather than horizontal.

Filter Beds.

Filter beds rely for their efficiency often more on the method of distribution adopted than upon the nature and value of the filtering media. The dosing should be intermittent, evenly distributed over the whole surface of the bed, and divided into the smallest particles which it is possible to obtain. Theoretically, a filter bed should be open to the air and provided with all the ventilation possible to encourage oxidation, but, if open, all filter beds will smell—before rain, people say—really when a sudden drop in the barometric pressure takes place, which draws up the stagnant



Purification Plant at the Lord Wandsworth Institute, Long Sutton, Hants.



Sewage Purification Plant with primary and secondary filter beds to provide a pure effluent to pass into a lake. For the Earl of Lytton at Knebworth.

air from the interstices of the filter bed. In practice a filter entirely closed with ferro-concrete cover slabs gives results equally good as, possibly better than, one open to the air, the reason probably being that the increased and more equable temperature thus maintained encourages the bacterial action, and, consequently, the efficiency of the purification.

When Pumping is Necessary.

Finally, it is no use to expect to be able to deal with the sewage of a country house or institution or village by means of a gravity scheme if there is no available fall and the subsoil is clay. A perfectly successful installation can be designed and carried out under these conditions, but it must entail pumping, either the tank liquor to the filter bed or the purified effluent to some suitable outfall. This pumping can be easily arranged to be entirely automatic if an electric current is available, and in such cases the possibilities of utilising the purified effluent are greatly increased.

The effluent, although equal to rain water, in that it has no colour or smell, and will not set up secondary decomposition, has qualities which may be utilised, but this is a question which must be dealt with in a future paper.

JAS. EDW. TUKE.

Latest List of New Inventions

Latest Patent Applications.

12285.—Bennett, M. B.—Building-blocks for walls. April 28.

12336.—Clements, J.—Means for constructing concrete, etc., walls and buildings. April 29.

12173.—Davies, G.—Self-setting pavement or road slab. April 28.

12177.—Doherty, E.—Concrete building-block. April 28.

12021.—Kerr, P. R.—Flushing cisterns. April 26.

Specifications Published.

162007.—Badder, H. C.—Decorating or covering the surface of concrete, brick, or like walls, roofs, ceilings, and floors, or of separate tiles or blocks.

162139.—Anderson, L.—Bricks or blocks for use in building walls.

162143.—Boyd, J. W.—Method of manufacturing blocks of an impervious nature for building purposes.

Abstract Published.

159007.—Walls.—Wallis, J. E., Troy Mill House, West Hyde, Rickmansworth, Hertfordshire. — Building-units are formed of framework sections of wood A, A1, B, B1, of less width than the wall of the building, and panels of concrete are cast in the wood frame, which forms a mould. The sections are formed in a recumbent position, and after the casting are raised to proper position and bolted together. The members forming the frames have longitudinal channels or fillets to hold the concrete in position; the concrete does not come to the surface of the frame, so that an inner covering may be applied to enclose a hollow space.

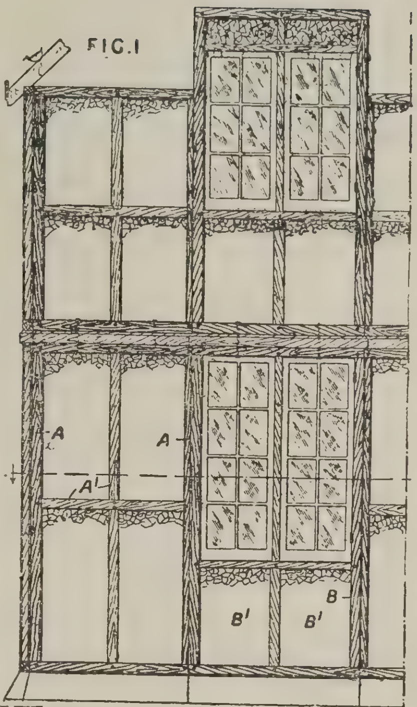


FIG. 1

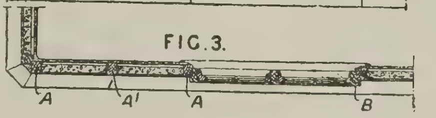
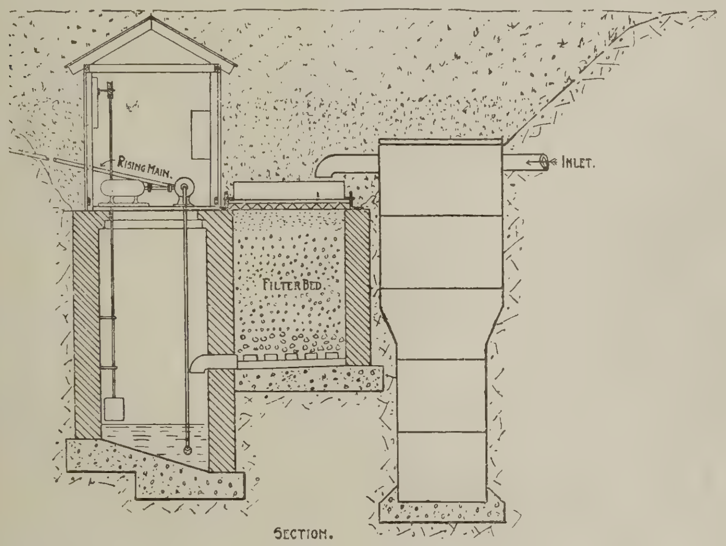
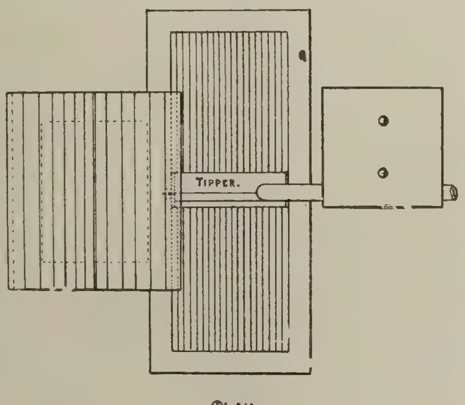


FIG. 3.

The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2, from whom readers of this Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner and Co. will obtain printed copies of published specifications and forward on post free for the sum of 1s. each.



SECTION.



PLAN.

Plan and section of installation to deal with 300 to 400 gallons of domestic sewage daily from a country house near Goodwood. No fall being available, the purified effluent is automatically pumped, as it collects, to an adjacent meadow.

Bristol Architects

The annual meeting of the Bristol Society of Architects, whose province embraces the counties of Gloucester, Somerset, Wilts, and Dorset, has been held at the Royal West of England Academy. A report on the work of the year 1920-21 was presented by the hon. secretary (Mr. W. J. Stenner), and a satisfactory statement as to finance was made by the hon. treasurer (Mr. J. Bertram Wills). The result of the ballot for the election of the officers and Council for the year 1921-22 was declared by the scrutineers (Messrs. W. A. H. Masters, T. H. Weston, and A. B. Botterill) as follows: President, Mr. G. C. Lawrence; vice-presidents, Messrs. Graham C. Awdry and Mowbray A. Green; Council, Messrs. G. H. Oatley, S. S. Reay, B. F. G. Wakefield, T. H. Weston, Sir Frank Wills, and Mr. J. Bertram Wills (hon. treasurer); associate members, Messrs. A. B. Botterill and H. W. Seccombe Wills; hon. secretary, Mr. W. J. Stenner.

The Week's News

Grantham Housing.

The T.C. have decided to modify their housing scheme and to purchase only sufficient land for the erection of eighty houses.

Norton Rural Housing.

Norton R.D.C. have received the approval of the Housing Commissioner to the lay-out plans of the housing scheme at Rillington.

Westhampnett Rural Housing.

Westhampnett Rural Council are inviting separate tenders for the erection of the houses proposed to be built on sites at East Wittering and Nyetimber.

Housing at Gillingham.

One hundred and fifty-two houses have been commenced. A lay-out plan, showing the position of thirty additional houses, making with those already arranged for 202, has been approved by the T.C.

New Promenade, Hartlepool.

The Ministry of Health has approved of the Council's application for permission to proceed with the scheme for the widening of the roadway on Southcliff, and the construction of a promenade there at a cost of £16,500.

Housing at Shipley.

The Housing Committee of the Shipley District Council has provisionally accepted tenders for the erection of fifty-six additional houses at Hirst Wood. At Crag End, Windhill, fifty-three houses are in course of erection.

Shops on Housing Estates.

The Bristol Housing Committee have decided to erect temporary lock-up shops, either of wood or asbestos, for a period not exceeding three years, in order to meet with the need for shops on the Sea Mills housing scheme site.

Steel Factory for Brazil.

The erection of a steel factory to utilise electric furnaces has been authorised by the Brazilian Minister of Agriculture. Importation of materials, such as machinery, motors, furnaces, will be allowed free of duty for a period of thirty years.

New Cinema for Heanor.

The Heanor magistrates have granted a provisional licence for a proposed new picture house to be erected at the corner of Market Place and Wilmot Street. The new building, which will be of structural ironwork and concrete, will accommodate 700 persons.

Church Tower Razed to Build Cottages.

Old St. Martin's Church tower, Lincoln, which contains about 700 tons of masonry, is being pulled down and carted away for the building of cottages in the country. The tower, a landmark of great beauty, was rebuilt after Cromwell's guns had bombarded it.

More Than 176,000 *Houses.*

Sir Alfred Mond, the Minister of Health, has assured a deputation from the National Federation of Building Trades Employers that the Government did not propose to reduce the number of houses to be built under the housing scheme below the number of 176,000 for which tenders have been approved. He said the number would be exceeded.

The Industrial League and Council.

The election of the Right Hon. J. H. Whitley, M.P., as Speaker of the House of Commons has caused him to have to resign the joint presidency of the Industrial League and Council, which he has held for so long in conjunction with the Right Hon. G. H. Roberts, M.P. Viscount Burnham, C.H., has graciously consented to become joint president. Viscount Burnham has almost from the inception of the League and Council taken a keen and personal interest in its work.

The Surveyors' Institution.

At a special general meeting of the Surveyors' Institution a resolution was unanimously passed approving the Supplemental Charter. The meeting called for May 23 will be deferred until the result of the petition for the Supplemental Charter is known, when further general meetings for the approval of the amended by-laws will be held.

Work at South Shields.

In order to provide work for the unemployed, the South Shields Town Council have had under consideration several public works, the plans of which have been prepared by the borough engineer, and it has now been decided to begin at once with the construction of the light railway and 120 ft. road from Westoe to Cleadon Park housing estate.

Hartlepool Housing.

The Hartlepool scheme provides for 121 houses, and of this number seventy-seven are being erected by contract. The Committee have resolved to erect the remainder of the houses under the Hart Road scheme by direct labour, subject to the approval of the Ministry of Health. It is also intended to apply the same system to the erection of boundary walls and fences in the Cleveland Street.

Institute of Scottish Architects.

At the monthly meeting in Edinburgh of the Institute of Scottish Architects, two members were admitted. Mr. A. N. Paterson, Glasgow, was nominated as president for the ensuing year. The annual convention is to be held at Dundee on June 21. It was intimated that the Royal Institute of British Architects are not opposing the application by the Scottish Institute for a Royal Charter.

Housing at Leyton.

Owing to the shortage of plasterers the Ministry of Health suggested that a number of the houses should be built with 9 in. solid walls faced on the exterior with picked stocks and built in cement, thus enabling the rough cast facing to be omitted, with the consequent lessening of the plasterers' work. The Housing Committee have agreed to the proposal, and have instructed the architect to make the necessary arrangements.

All Souls', Leeds, War Memorial.

The war memorial at All Souls', Leeds, consists of a crucifix on a stone base, over 18 ft. high, occupying a commanding position in the church grounds. The cross and base are of Portland stone, and the figure, about 4½ ft. in height, is in bronze, as are the inscription and plates containing 107 names. The work has been carried out by the Society of the Faith, whose architect, Mr. A. E. Henderson, F.S.A., is responsible for the design.

Aboyne War Memorial Buildings.

The foundation stone of the Aboyne and Glentanar War Memorial Buildings has been laid by Lady Glentanar. The buildings present an imposing appearance, and adjoin the village green. It is estimated that the total cost of the scheme will be £14,000. Although it forms one complete block, the memorial consists of two parts—one comprising the Victory Hall, the gift of Lord Glentanar to the town, and the other consisting of a shrine and clubhouse with reading and billiard rooms, and steward's house attached, erected by the subscribers to the War Memorial Fund. The architect was Dr. A. Marshall Mackenzie, R.S.A., Aberdeen.

St. Paul's Bridge.

The Corporation of the City of London have rejected a proposal not to proceed with St. Paul's Bridge until the Court of Common Council had had another opportunity of discussing the whole question; but it was decided that the committee involved should go no further than preparing plans and specifications, and submit them to the Court before inviting tenders. It is contended that the bridge is unnecessary, that the expense is prohibitive, and that conditions have entirely changed since the bridge was first considered.

Cheshire War Memorials.

Faculties have been granted at Chester Consistory Court for the erection of the following war memorials: St. John, Egremont—Churchyard cross and a memorial tablet of brass mounted on oak. St. George, Altrincham—Tablet of Caen stone. St. Mark, Bredbury—Stained glass window containing representation of a soldier kneeling before Christ, with an angel above bearing a scroll with an inscription, and a tablet of bronze. St. Paul, Danebridge—Cross of stone. Parish Church of Mottram-in-Longdendale—Stained glass windows containing figures of St. Oswald, St. George, and St. Edwin, with memorial inscription. Holy Trinity, Hoylake—Stained glass window representing St. George, and bronze window tablets. Chapel of Hildeburgh, in parish of Holy Trinity, Hoylake—Tablet of bronze. St. Paul, Macclesfield—Granite churchyard cross bearing memorial inscription.

Trade and Craft

Change of Address.

Messrs. Beaven and Sons, Ltd., have moved to Army and Navy Mansions, 115 Victoria-street, London, S.W.1. (first floor).

Sir Banister Fletcher, F.R.I.B.A., F.S.I., has removed from 29 New Bridge Street, E.C.4, to 1 King's Bench Walk, E.C.4.

Steel Windows.

By the adoption of well-designed steel windows for dwellings many important advantages are secured, and the risks involved in cleaning the windows from the outside are eliminated. The pioneer efforts of such firms as Messrs. Williams and Williams, of Chester, whose extensive works are claimed to be capable of an output of 5,000 steel windows of varied design per week, prove that modern requirements are being fully met at least in one direction.

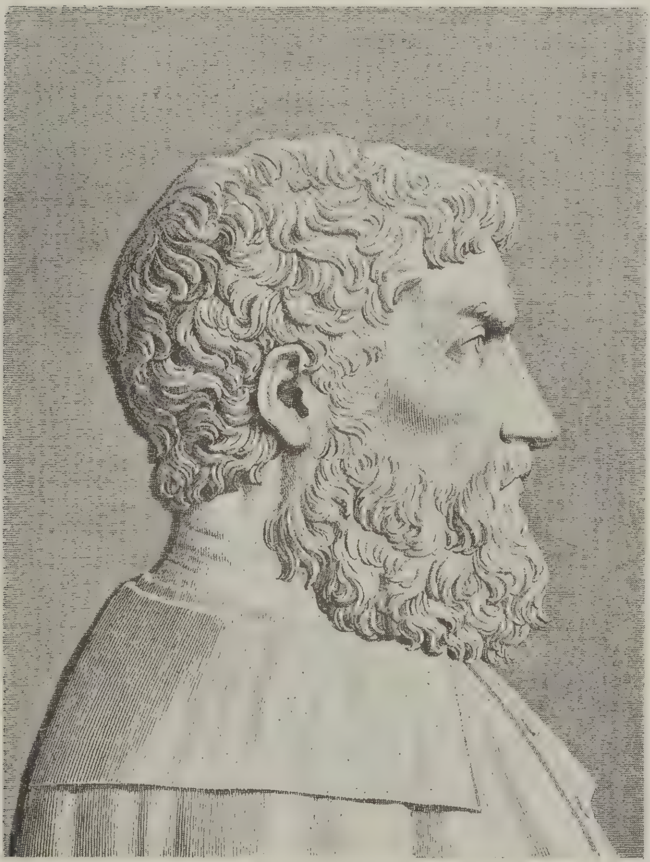
An A. C. Conrade Exhibition

Messrs. Technical Journals, Ltd., have much pleasure in announcing that arrangements have been made for an exhibition of drawings by Mr. Alfred C. Conrade in the Reading Room at 29 Tothill Street, Westminster. Architects and others are cordially invited to visit the exhibition, which will be open (admission free) from 10 a.m. till 5 p.m. daily. Further particulars will be announced later.

Wednesday, May 25, 1921 Volume LIII. No. 1377

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

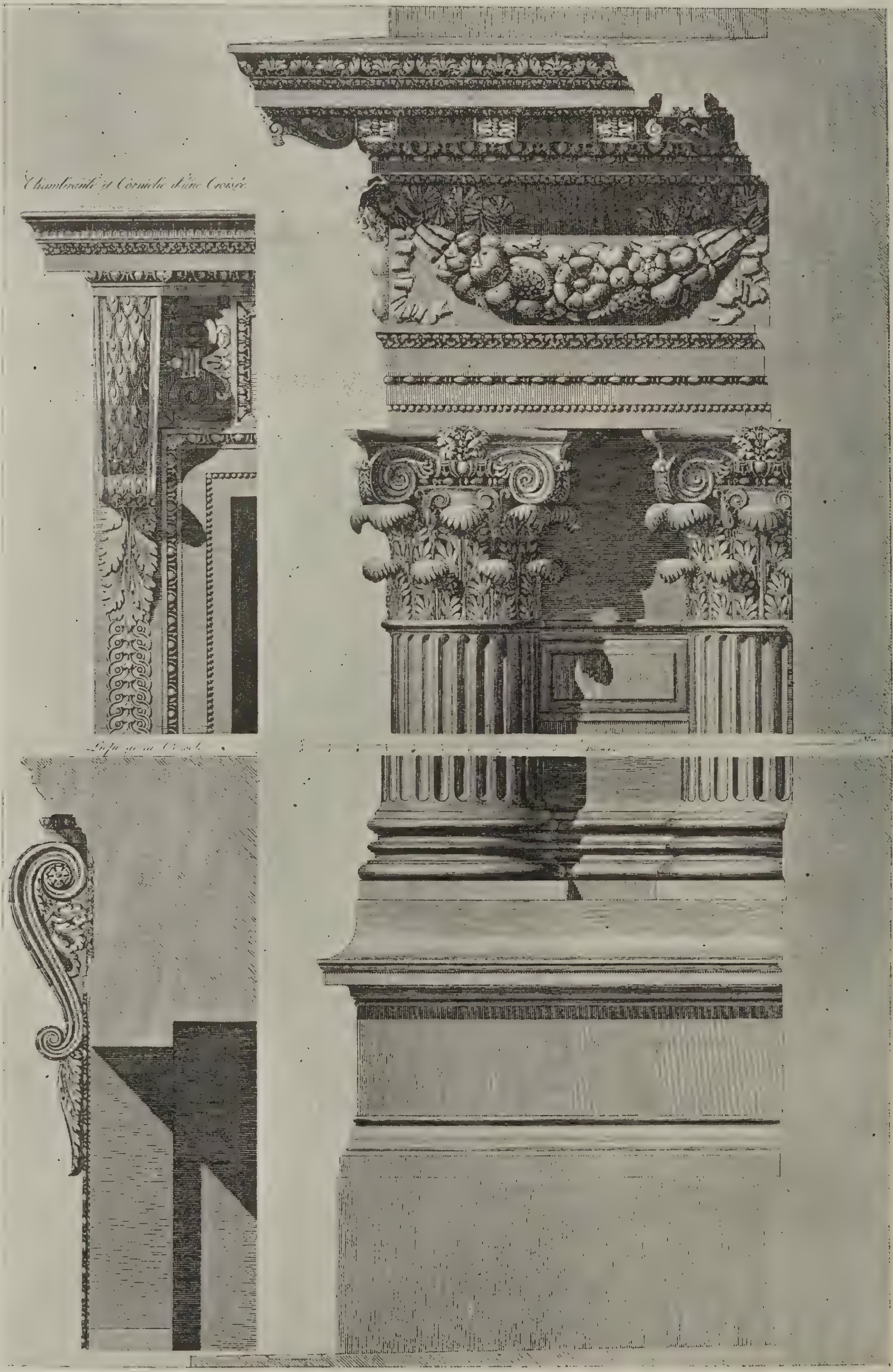


JEAN BULLANT (C. 1515-78).

Bullant, both architect and sculptor, one of the most prominent personalities in the art history of the sixteenth century, developed his taste and acquired his knowledge by the study of the classical monuments of Italy. His works include the Château d'Ecouen (begun about 1540), the Hôtel de Soissons for Catherine de Medici (now demolished), the Hôtel Carnavalet, the Central buildings of the Tuileries, and the Tomb of Henry II. and his patroness Catherine. He published an important architectural work "Reigle Generalle d'Architecture des cinq Manières," in 1568.

27-29 Tothill Street, Westminster, S.W.1.

Architectural Details. 7.—From the First-Floor Storey of the Courtyard of the Louvre



It was in 1624 that Lemercier, by command of Louis XIII. and his minister Richelieu, began the additions to the Louvre which enlarged the courtyard to four times the size originally contemplated. The work was carried on by Levau, who continued the design of Lescot with certain modifications. The character of Levau's work is well shown in the above details.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, May 25, 1921 Volume LIII. No. 1377

The Better Way in Ethics and Industry

LORD ROBERT CECIL has once again proved how strong a spiritual force he is. On May 18 he was the principal speaker at a meeting at the Central Hall, Westminster, of the "National Movement Towards a Christian Order of Industry and Commerce." He deprecated the exaggeration of competition. The competitive spirit, he urged, had been encouraged to an excessive degree in sport, in education, and to a large extent in the way we recruited our public services; and very much of this increased competition had been caused by certain movements, such as the theory of evolution and the science of political economy. He was of the opinion that it was not particularly moral to buy in the cheapest market and sell in the dearest; and it was important to remember, he said, that neither evolution nor political economy was a moral code. One of the results of competition had been to dehumanise business relations, and the phrase "business is business" was a soul-destroying maxim if ever there was one. "The workman," said Lord Robert, in conclusion, "brings his strength and skill into business, and it becomes just as much a part of the capital of the business as anything else. It is his contribution to the essential foundation on which a business must be built, and I suggest that he ought to have—if he is really to be brought to feel, and if the employer also is to be brought to feel, that they are both working together as one whole—his proper share, not only of the profits, but, most of all, of the responsibilities and duties of management."

Coming from Lord Robert Cecil, this little essay in political economy and industrial ethics will be received with a degree of attention that would have been denied to a publicist of lower eminence and less transparent sincerity. At the same time, it will not be overlooked that Lord Robert speaks as a bystander, and not as an active participant in business affairs. If he were in daily and hourly contact with industrial exigencies, he would speak more convincingly if with less of the detachment which favours an impartial view.

To a modified extent this remark applies also to Mr. Arnold S. Rowntree, who has no doubt come into closer contact with actual working conditions and with the actual workers; but he also, however, is not of the multitude who cannot see the wood because of the trees. What he does see very distinctly is the necessity for infusing a new spirit into industry. He held that it was of vital necessity to give the workers a far greater sense of security. "The question of unemployment must be dealt with. He did not see how an operative builder could be expected to go on giving his best and laying all the bricks he possibly could if he knew that in three weeks' time the job was coming to an end and that no other job was coming to him and no living allowance either. Whether they liked it or not," Mr. Rowntree added, "the workman was going to have a greater share in management, and he (the speaker) wanted his hearers to recognise as business people that an increased share in management was what the worker had to have." That, in effect, is in accordance with the spirit and the actual findings of the Whitley Committee; and if coalowners and other persons in high places had perceived the true inwardness of the reports of the Whitley and the Hankey Committees we should not have been lamenting to-day the ruinous effects of the coal crisis on everything except the atmosphere.

As to the building industry, it can be safely asserted to have shown the way towards industrial "peace, retrenchment, and reform." Its conciliation boards were a first step towards industrial councils, a step taken long before Mr. Whitley developed the idea of bringing employer and employed face to face in conference on industrial issues. Building firms, too, have been pioneers in the welfare movement; one of them, at least, having actually conceived and developed, half a century or more ago, the then novel notion of regarding their employees not as "hands," but as complete human beings, having mental and spiritual as well as physical needs. To ignore and neglect the moral side of a worker is to evolve a Frankenstein's monster, who sooner or later will take a cruel though natural revenge on his creators; or from whom, at any rate, it were over-sanguine if not utterly futile to expect intelligent and sympathetic co-operation.

Mr. Arnold Rowntree hit, doubtless, on an extremely mischievous condition in the building industry—its chief bugbear, we think—when he mentioned insecurity of tenure. This inveterate and devastating "custom of the trade" has been too long accepted as an inevitable matter of course. It is a prolific source of hardship, and, consequently, of deep-seated ill-feeling. A man taken on casually and callously, and thrust away at an hour's notice, can have but little sense of personal loyalty; and it is almost ludicrous to expect a casual "hand"—for although we strongly deprecate the expression, we cannot help seeing that under such a wretched system his other attributes are largely discounted—to take very much interest in the quantity or quality of his work.

Unfortunately Mr. Rowntree did not indicate, even in meagre outline, in what way or by what means casual employment in the building industry could be altogether avoided, than which there is surely no more difficult industrial problem to solve. The much-maligned league system may be regarded as being essentially a determined attempt to grapple with it; but its resolve to pay men whether they are at work or not is, in the present stage of civilisation, to offer what, to some men, is an irresistible temptation to idleness. Most of us, like Thackeray, "work best with the devil at our elbows."

This difficult matter of casual employment, injurious alike to employer and employed, encouraging on both sides an almost incredible lack of personal interest, should receive the most earnest attention of the so-called Builders' Parliament. Enlightened employers who take great pains to select a competent staff, and to keep it together—often at great temporary sacrifice—through slack times, do not, one may imagine, lose much by this policy, which, however, is often prompted by purely humane considerations. As, in the case of casual employment, indifference breeds indifference, so, in the case of a cherished staff, kindly feeling is reciprocal, and, in the heart of the worker, brings forth fruit after its kind. It is in such an atmosphere of mutual good-will that the best and most profitable results are obtained. This view we have consistently maintained, and confirmation of it from two such authoritative and disinterested publicists as Lord Robert Cecil and Mr. Arnold Rowntree encourages the hope that this is the view which will ultimately prevail to lift industry out of the morass of selfishness in which it is so generally wallowing.

In the "West Countree"

For the first time since the war the multitudinous engagements of the Prince of Wales permit him to pay an official visit to his estates in the West of England. Were the Prince's journeyings adequately chronicled they would make more interesting reading and would be more prolific in results than Arthur Young's "Tours" and Cobbett's "Rural Rides." Ranging from Somerset to the Scilly Isles, the Prince's tour embraces every variety of interest of which landed estates are capable—agriculture, cattle-breeding, farming of all kinds, and several kinds of mining. The Prince's tour, it need not be said, is no pleasure-jaunt. It will affect powerfully the development of land interests throughout the kingdom. As property-owners, the Princes of Wales of our time have always set a princely example to the rest of the kingdom. In particular, they have paid great attention to the buildings of their tenants—farmhouses, outbuildings, and cottage dwellings on their estates being always the model buildings of model landlords. Maintaining traditional lines, the Prince's Duchy of Cornwall and other estate buildings have had a prepotent and wholly benign influence on the national housing movement.

Smokeless London

A letter from Mr. Ernest Newton, R.A., printed in "The Times" of May 18, became almost poetic in praise of the purer atmosphere we are enjoying because of the coal shortage. "The whole aspect of London is changed. Vistas hitherto undreamt-of reveal themselves in every direction—a walk in Kensington or St. John's Wood is like a walk in the country. Fresh, clean foliage refreshes the eye, and the scent of lilac and may fills the air." He is pained to think that when coal becomes available again we shall go back to "the curse of coal smoke," to get rid of which, besides being an advantage to the public health, would save millions of money now spent on repairs and renewals, while "the everlasting cleaning and domestic drudgery would be reduced to the vanishing point." He urges the Ministry of Health to deal with this matter of serious public concern. His letter was immediately backed up by another, which was signed by an octave of architects—Messrs. Henry M. Fletcher, Theodore Fyfe, W. Curtis Green, E. Stanley Hall, Edward Maufe, J. Alan Slater, Michael Waterhouse, and Maurice E. Webb. These gentlemen put the case, not almost poetically, as Mr. Newton did, but almost epigrammatically: "For centuries we have spent large sums on smothering ourselves. Circumstances have forced us to a temporary reform. Why not make it permanent?" That would seem to imply making the coal shortage permanent. What they advocate, however, is the substitution, as far as possible, of oil for coal in manufactures and of the use of gas, electricity, and hot water for domestic purposes; and they think that the L.C.C. and the City Corporation should take up the subject, and, if necessary, obtain Parliamentary powers for controlling the use of soft coal. Sir William Richmond should have lived to see this day!

"To Endow Architectural Education

Last autumn we recorded the incorporation of th Architectural Association. As we said at the time, thi was a very businesslike way of relieving the trustees c a financial obligation that should not be allowed to weig upon them. A corollary of incorporation is the issue c £20,000, in multiples of £50, first mortgage debenture at 6 per cent., the security being the lease of the Associa tion premises at 34 and 35 Bedford Square, on whic a sum of £25,000 has been spent in alterations and re building; furniture valued at £7,000; and an architec tural library which, at a moderate estimate, is wort £5,000. With the prospectus relating to these deben tures the Association is issuing an appeal for donations "The Association," so runs the circular, "is withou endowment of any kind, and a sum of £50,000 i required: (a) To pay off the existing debts and mort gages; (b) to provide an endowment fund and furthe scholarships; (c) to augment the library, equip laboratory, etc. It is hardly paradoxical to say that th school's immense popularity has almost ruined it; for i is easy to understand that heavy expenses have had t be incurred to provide accommodation for a great numbe of students. Without flattery, the A.A. is doing splendid educational work, which should not be allowe to languish for want of funds. It is work of a nationa character, seeing how greatly the welfare of the com munity depends on the proper training of its architects

Post Office Poltroonery

What is wrong with the General Post Office? Th "Daily Mail" will achieve the greatest and most usefu of all its many "stunts" if it succeeds in exposing th source of the trouble. It does not need minute investiga tion to ascertain that what is the matter is (to express i in round terms) gross mismanagement. Thus much i only too easily inferred from the scandalous results When a great trading institution, brooking no rivals an enjoying a perfect monopoly of a huge business, round off a twelvemonth's transactions with a deficit of some thing like three millions and a half, the time has arrive for a Royal Commission rather than for a newspape enquiry. Not that the amount of the deficit is the mos serious aspect of the case. As a loss it is startling, bu as an indication of ineptitude it is appalling. It is grave symptom of unhealth, deep-seated in the system The G.P.O. is costing the country too dear. A tarif that causes a business man to hesitate about writing letter, or posting a magazine or book, or speaking at th telephone or sending a telegram, is sapping the pro sperity it ought to promote, or is making it crawl o stand still when it ought to fly. If the State canno run the Post Office to better purpose, it had better han it over to private enterprise. It would not then exist a a tax on business and "in restraint of trade," but coul be made to yield handsome profits to itself and to th community.

An A. C. Conrade Exhibition

Following the exhibition of architectural etchings b Mr. W. Walcot, in the architectural reading-room a 27-29, Tothill Street, Westminster, there has bee arranged there an attractive display of water-colours b Mr. A. C. Conrade. These show great variety o subject and rare breadth of treatment. Without excep tion, the subjects are of strong architectural interest, th more renowned buildings of Rome, Florence, Milan, an Venice being freely represented; while Oxford, Salis bury, and Westminster have not been neglected, no have Granada, Xeres, and Madrid. Fine feeling com bines with unusual powers of execution to invest Mr Conrade's pictures with individuality and charm Admission to the exhibition (between 10.30 a.m. an 4.30 p.m.) is entirely free.

The National Housing Fiasco

By KENNETH M. B. CROSS, M.A. (Cantab.).

QUITE recently the eminent medical practitioner who was responsible for the launching and conduct of the Government's grandiose housing scheme has given place to a financial magnate whose duty, *inter alia*, is to bring the ill-starred venture to an inglorious though respectable close. That is the latest outstanding event which rivets the attention of the man in the street and prompts him to demand from national mouthpieces explanatory information of a more definite and reassuring nature than is contained in the bland vacuities to which he has become accustomed.

After all, the Government, even under Mr. Lloyd George, cannot reasonably expect to have it both ways. One recollects that after the war it was announced that there was a serious housing shortage, a statement which on the face of it did not appear to be improbable. The normal house-building activities had been brought to a standstill during the unproductive years of war, and consequently a considerable time might be expected to elapse before the deficiency could be made good, and we were in a position to cope with the annual demand. Men who had fought for England were entitled to live in an English home, the land was to be made fit for heroes to live in, a million houses were wanted, or at least 800,000, and 300,000 were to be built at once.

Slowly but surely the gigantic machine creaked and shivered into a fitful and uneven motion; municipal borough or rural district councillors, including active and militant lady members, beaming with civic pride and popular approval, racked their brains in the effort to disentangle the complexities of coppers, baths, sinks, mangles, cupboards, and parlours in order that they might meet their architect on his own ground, and sneer at his alleged incompetence. Representatives of the Institute and of the Society of Architects met representatives of the Ministry of Health, and, after a little back-biting and mutual recrimination, agreed upon a scale of architects' fees in connection with housing schemes, and, although their example was followed by the surveyors, yet for a considerable time no houses were forthcoming. The Tudor Walters Committee issued voluminous reports upon "the methods of securing economy and dispatch" in the provision of dwellings for the working classes. Specimen plans were published of typical and desirable houses, and this is a point which affects architects, for the vast majority of these specimen dwellings were decidedly badly planned and of unattractive design. It is to be feared that many architects, tiring of the meticulous criticism of Government officials, copied their plans almost *in toto* from these specimen illustrations published as models, and the result was simply disastrous. Of course, only an undue spirit of optimism could expect departmental officialdom to produce æsthetically good or even tolerable designs, but one had a right to expect that bedrooms of the 12 ft. by 6 ft. variety, either with the corner cut off (as in Illustration No. 33),* or with the corner left plain (as in Illustration No. 36),* would not have been offered for general adoption as ideal types of plan.

Fortunately there has been an improvement in the shapes of rooms, if not in their sizes, in the more recent publications of the Ministry of Health, but the system of planning remains almost as defective as ever. It was considered desirable, if the matter was considered at all, that cottages in which the w.c. was placed on the ground floor to arrange the staircase in such a way that the living room became a passage through which the bedroom slops had to be carried before they could be emptied at the back of the house. It will be agreed that under the most favourable circumstances it is not desirable to convert the living room, in which the cooking is of necessity invariably done, into a general thoroughfare for members of the household, but in cases of prolonged illness or infirmity the system becomes absolutely disgusting, and entirely subversive of the "advantages and amenities tending to promote to the full a healthy and contented home life," which is claimed by the Ministry of Health to be desirable. But it would not be fair to impose too great a burden of blame upon the shoulders of the late Minister of Health for defects of planning and design, however obvious and reprehensible. What could he, poor man, know about these things?

But to continue, exhibitions were held, lectures were delivered, housing bonds were issued (they are still for sale), new and shoddy building appliances and materials were invented, the standard of building construction was distinctly lowered throughout the country, with results which cannot yet be fully appreciated, but which may convince the next generation that building below a certain standard of construction is a false economy and almost dishonest. For does it not throw an ever-increasing burden of rebuilding and maintenance on other shoulders than our own? Eventually foundations were laid, and, on the slightest provocation, statistics were read to an admiring House concerning the number of schemes approved. Then "systems" were adopted, and official forms and requisition orders of varying complexity, stamped, signed, counter-signed, and destined to be duplicated, triplicated, and finally lost, were sent broadcast over the country post free, in official envelopes. It was all very impressive, and people felt grateful to our rulers, and imagined that something was being done.

And then the blow came, amidst all the hubbub and excitement, amidst the activity of the Government, of the Church, of the Press, amidst the wrangling of committees, the squabbles over fees, the competition for work, the still small voice of the taxpayer was heard to mutter, "Who's going to pay for all this?" It was the end. The doctor became a Minister without portfolio, the financier became the Minister of Health, and then . . . !

> "The Government does not intend to extend the present system indefinitely." . . . "In view of the fact that we have a great deal of work in hand, we ought to go slow in accepting future tenders." . . . "Our broad problem remains the same. We have to erect houses of a reasonable standard at a reasonable expenditure; we have got to cut our cloth according to the amount of cloth we have."
>
> (Sir Alfred Mond to a deputation from the Association of Municipal Corporations.)

This announcement came at a time when only 176,793 houses for which tenders had been submitted were approved, and a far smaller proportion of houses (45,000) actually completed, and also when building prices were at last beginning to fall.

Now, we repeat that the Government cannot have it both ways; either they were correct in their estimate of the housing shortage immediately after the war, or they are right now, and the need for houses is not urgent. To suggest that the whole scheme savours of political vote-catching opportunism destined to appease the aspirations of the Labour Party would undoubtedly be uncharitable, but "dope" is an unpleasant word, which has recently crept into common usage, and it is unfortunately peculiarly appropriate to our life and times.

---

* Report of Tudor Walters Committee presented to Parliament by command of His Majesty 1918. Price 1s.

Registration—What it Means

THE letter of one Thomas, quoted at length in our correspondence column, has set us seeking for a precise definition of a somewhat elastic term. Our correspondent propounds alternative interpretations, and asks us to say which of the twain should be the ultimate object of the united efforts of the architectural profession. The vexed question of Unification has been most happily solved, and all architects in the United Kingdom are to be brought within the fold of the R.I.B.A., but this is only a preliminary step towards that legal defining of professional status which alone can protect the interests of the qualified professional man.

"Thomas" has apparently been deeply moved by an argument between two architects, one of whom contended that the Registration Bill should be so drafted as to "prevent any man except an architect acting as an architect," while the other argued that an Act which forbade any unqualified man from styling himself architect would afford sufficient protection. The question is undoubtedly one of some nicety, and feeling ourselves anything but qualified to pronounce thereon, we sought counsel of one in authority, whose wide experience and deep knowledge give his pronouncements the weight of representative architectural opinion.

This gentleman gave very short shrift to the proposal of Architect No. 1. It is undoubtedly a counsel of perfection, but unfortunately, as he pointed out, quite impossible of achievement. Nothing in the wide world will prevent unqualified persons from designing and putting up houses; it were equally impossible to prohibit the activities of the countless individuals who profess to cure human ills without medical qualifications. But—and herein lies the distinction—although there is no law to prevent these unqualified persons from practising, they may not do so under the style of physicians, and they may not sue for fees; those privileges are restricted to the man or woman whose efficiency is guaranteed by the diplomas of the Royal Colleges of Physicians and Surgeons. The public and the profession are thus equally protected. The man in the street realises that, in utilising the services of Master Quack, he does so entirely at his own risk. If he is cured, as he may be, well and good: if his last state is worse than his first, he has the consolation of knowing that he has only himself to thank. For the doctor, on the other hand, there is the comfortable assurance that his title is the strictly guarded prerogative of the profession, and that his toilsomely acquired qualifications have gained him membership in a powerful and exclusive Trade Union.

If the Registration Bill, as summarised by Architect No. 2, becomes an accomplished fact, architects will be in much the same position as their medical brethren. That this is the true interpretation of Registration is clearly shown in the Report of the Sub-Committee on Unification and Registration, to which the Gentleman in Authority drew our attention. "Thomas" should be familiar with this; if he is not, he will find therein the answer to his questionings.

It is proposed to ". . . present to Parliament a Registration Bill prohibiting persons whose names are not upon the Register from practising under the style of 'architect,' or under any style containing the words 'architect' or 'architectural' . . ."; and in this paragraph is comprised the gist of the whole matter. That a sterner law was at one time hoped for may be seen by reference to the proposal in its original form, which ran, ". . . prohibiting persons whose names are not upon the Register from practising *as* architects, etc.," a very different matter. The Committee realised, however, that it was improbable that Parliament would concede more than the protection of the *title* of "architect" in any Registration Act, and the present wording was therefore decided on.

The Registration schemes prepared by the surveyors and the civil engineers have been dropped, and architects now stand alone. They may, nevertheless, and probably will, obtain the legal protection they need, but as the authority whose opinion we sought pointed out, the passing of an Act of Parliament will by no means end the matter. Registration will prohibit amateurs and builders from calling themselves architects, but it will not compel the public to consult the qualified man. Only the Profession can help itself, and it is up to architects to establish their own position. The man in the street must be made to realise that the architectural title stands for practical efficiency as well as artistic knowledge, and that the best and cheapest work is achieved only under the supervision of the highly trained and properly qualified man.

To accomplish this a wide and systematic educational campaign must be undertaken, but it is an end that is worthy of some striving. When an architect occupies in his own sphere a position equivalent to that of doctor or lawyer in their respective worlds the high hopes of the advocates of Registration will be fulfilled, and their strenuous efforts rewarded, but that position can only be achieved by the grim determination of the whole profession.

E. N. B.

Architectural Association:

An Appeal for Funds

In order to raise funds immediately for the payment of the outstanding balance of the Architectural Association building debt, the Council has decided to issue debentures in multiples of £50, amounting to £20,000, bearing interest at the rate of 6 per cent. per annum, payable half-yearly on April 30 and October 31.

Debentures will be redeemable by annual drawings to commence at the expiration of one year from the date of issue, and a sum of £500 will be applied each year for this purpose, but the Council reserves to itself the right to redeem debentures to over and above this amount as opportunity allows.

The debentures will be a first charge on the assets and property of the Association, which provide more than ample security for the amount to be raised.

The assets of the Association are as follow:—

1. Forty years' lease, dating from 1917, of the premises in Bedford Square, held from the Bedford Estate at a rental of £300 per annum. The premises comprise two houses (Nos. 34 and 35), which have recently been reconstructed to form one building, together with a large block of four studios with a connecting gallery to the front block of buildings, and having also a separate entrance in Morwell Street. In all a sum of £25,000 has been expended on alterations and rebuilding.

2. Furniture and equipment generally, including all the requirements of a club, valued approximately at £7,000.

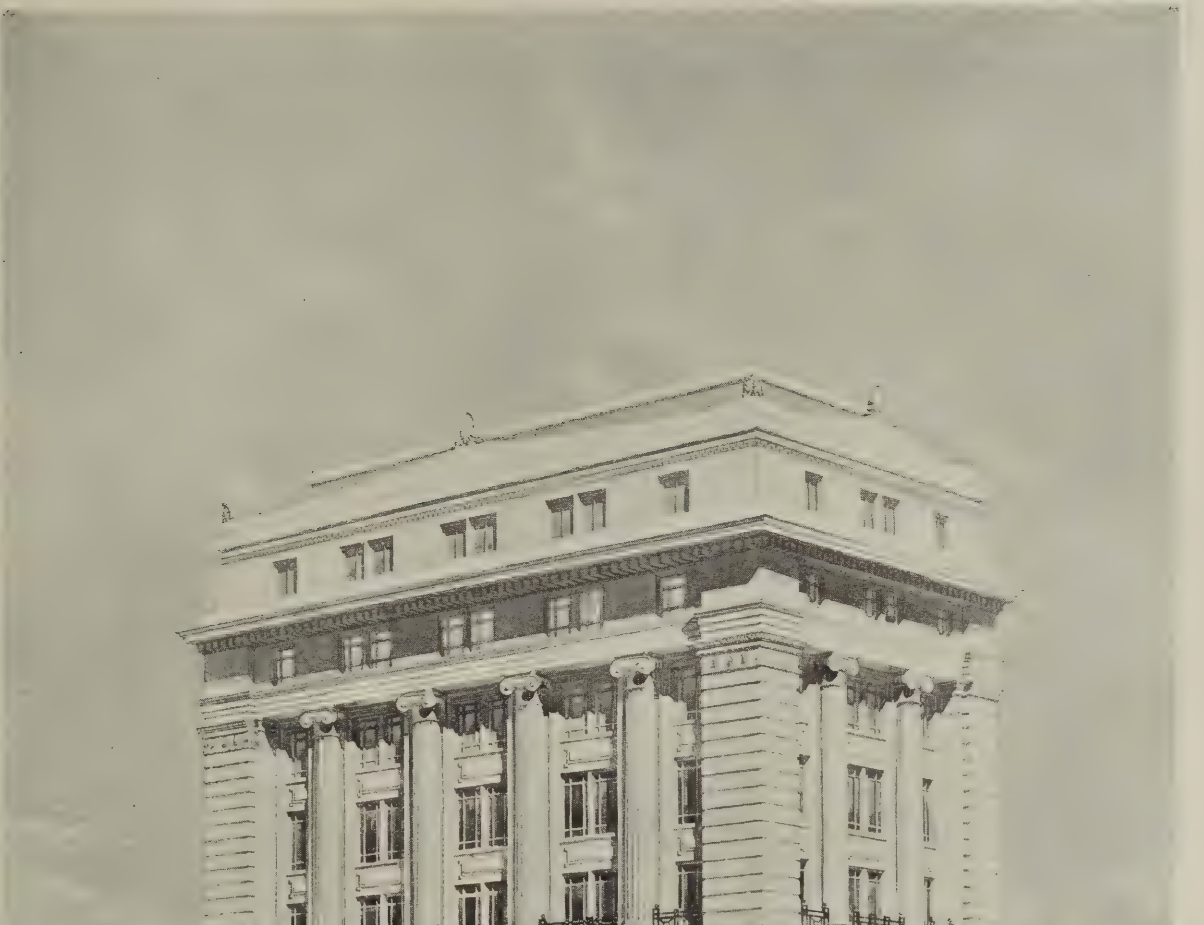
3. A valuable library of architectural books which at a very conservative estimate is worth £5,000.

It is earnestly hoped that all those interested in the welfare of architecture will subscribe to this issue. A form of application may be obtained from Mr. F. R. Yerbury, Secretary, The Architectural Association, 34-35 Bedford Square, W.C.1.

An appeal for a sum of £50,000 to endow architectural education is also made. Donations, lists of which will be published in the professional Press, should be sent to Stanley Hamp, Esq., Hon. Treasurer, Architectural Association, 34 and 35 Bedford Square, W.C.1.

Current Architecture. 85.—New Offices for the National Bank, Ltd., James Street and Fenwick Street, Liverpool

T. Arnold Ashworth and Sons, Architects



The fine new building shown in the above illustration is shortly to be erected in Liverpool. Occupying a site 4,000 square feet in area, it will be 110 feet high, comprising nine floors above street level, the bank premises being confined to the ground-floor and basement. Steel frame construction will be employed throughout, with architectural elevations of Portland stone.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Insurance in Relation to Building*

By T. P. LLOYD

FEELING confident that an interchange of ideas between architects and insurance men must be mutually beneficial, but at the same time being sensible of a certain diffidence in addressing you on what is to a large extent your own subject, I would at once disclaim any idea of posing as an expert in regard to building construction. I have endeavoured, rather, to give some few notes based on the collective experience of the Fire Offices generally, and relating to the erection and equipment of buildings.

Perhaps, first of all, I may refer to some of a fire insurance surveyor's duties, in order to show how difficult it would be for him to specialise in one among so many widely differing branches of knowledge. Such a surveyor's work is of necessity rather more critical than creative, and he, therefore, misses the feeling of joy and satisfaction a member of your profession must so often experience when he sees complete and upstanding the building he has designed and watched so carefully through its succeeding stages.

Qualifications of the Surveyor

Apart from the technicalities of his own business, the insurance surveyor must have some knowledge of chemistry, electricity, hydraulics, and if not the æsthetic, at least a little of the practical, side of architecture. He must be acquainted with the processes involved and the raw materials used in the country's principal manufactures, together with the fire hazards attaching to them, as he may be called upon, often at the shortest notice, to go anywhere to inspect and report on any class of industrial undertaking. His report, which has generally to be accompanied by a fairly accurate block plan, must contain all the particulars the underwriter of his office is likely to want to enable him to judge the risk run, and to fix the premium at which an insurance can be remuneratively underwritten. There is also what may be termed a consultative side to his work. He must be able to make suggestions with a view to decreasing the risk of fire (and, incidentally, premium), to meet clients, their architects and engineers, with reference to new work, and generally to act for his office in regard to the more technical side of his business.

In this connection I seem to have a golden opportunity of laying stress on the desirability of bringing in the insurance company to a preliminary discussion when any important work is to be undertaken. We do occasionally get a sight of the plans of a proposed building, but more often than not we see the place for the first time when it is more or less finished, and when any suggestions we might have to make are too late. I can speak for my own office, and I feel pretty confident I can do so for most of the others when I say we would welcome the chance of an early consultation regarding any projected structure. I admit the question of cost puts some of our suggestions out of court, but there is almost always some point on which the trained insurance man, with the experience of his office over many years to help him, can put his finger. It may tend towards immunity from fire, or it may result in lessening premiums, and as it costs nothing to consult your insurance office in this way I would appeal to you all to make a practice of doing so. I am fully confident that good results would accrue if such a course were generally followed.

The offices jointly have drawn up many rules and regulations (some of which I hope to touch upon later), and many of them are not nearly so widely known as might be. Sir Aston Webb, who addressed the London Insurance Institute in 1917 on very much the same subject, but, of course, from the architect's standpoint, himself expressed a hope for a little more co-operation between his profession and the offices towards the erection of buildings which shall not easily be destroyed by fire. He said, very truly, that an architect was anxious to design buildings which should live after him and admitted that there was a great deal to be done still in the direction of fire-resisting construction. I don't quite know what would happen to the unfortunate fire offices should immunity from fire be realised, but with annual losses in the British Isles alone approximating £10,000,000, we need hardly feel unduly apprehensive just yet.

Fire-resisting construction has its limits. You could, no doubt, build a practically indestructible building, and it would remain so just so long as it was kept empty or used for the deposit of, say, pig iron. Furthermore, it would probably have to be isolated or it might suffer from proximity to a more inflammable neighbour. Buildings, therefore, have to be designed with a view to their prospective use and with an eye on their surroundings. We may roughly classify buildings under the following heads:—Dwellings, public buildings, shops, warehouses, and factories.

Country Houses

As regards house property generally, the extra cost puts any special form of fire resisting construction out of the question, though undoubtedly a large number of domestic fires are caused by faulty construction of hearths and flues, but here, I am afraid, the builder and not the architect is generally the culprit. The large country house is always something of a problem to insurance offices. Such houses and mansions are so often isolated, and in consequence fires are beyond control before a brigade can reach them Now houses of this type, often with historic associations and generally with priceless contents in the shape of heirlooms, works of art, pieces of Sheraton, Chippendale, etc., that money can never replace, seem to deserve special consideration. It is outside the scope of the architect to do much in the case of existing houses except to see that only the very best work, and that strictly in accordance with Institute rules, is put in where electric light is fitted. The provision of an ample water supply from reservoirs sufficiently elevated to give an adequate pressure is also desirable, but unless there is a well-trained estate brigade fire appliances are often a broken reed, especially where houses are let to strangers for shooting, etc., and an outside staff of servants imported.

In designing a modern country house there should be scope for ingenuity in splitting the house into sections with fire-resisting division walls and doors so arranged as to interfere as little as possible with the amenities of the structure as a whole. Those few who in spite of, or perhaps on account of, the war are likely to afford such luxurious habitations in future should, one would imagine, be able to stand the extra drain involved in putting a scheme of domestic fire-resisting construction into practice.

Public Buildings and Shops

Public buildings are, as a rule, built by public bodies with public funds, and are in consequence generally well done, and there is not much for the offices to criticise in the average town hall, school, asylum, etc. Theatres, which I suppose are semi-public buildings, are slowly but surely improving. In the London area the County Council Regulations are so strict that it is difficult to suggest any better standard, and, of course, theatre architecture is distinctly the specialist's work. I can remember several veritable death-traps in the way of theatres in the provinces, but local regulations, framed, of course, with the view of safeguarding human life rather than material loss, have done a lot to improve these places. Cinematograph theatres, too, with the modern fire-proof operating chamber, are vastly different propositions from the makeshift affairs that were once so common. Churches are not nearly such gilt-edged risks as one would imagine. The amount of very dry woodwork in the roofs is, I think, the most fruitful cause of damage to ecclesiastical buildings, as, apart from the seating, there is as a rule not much else of an inflammable nature found in such buildings.

The large shop or store is often a very heavy risk from the offices' point of view, and there have been many serious fires from time to time, in large drapery establishments more particularly, while these fires, owing to the number of assistants sleeping on the premises on the "living-in" system, have in some instances been attended by loss of life. The rapidity with which fire spreads in premises of this description can be readily understood owing to the display of flimsy materials and the presence of large light-wells through the floors.

In several of the more modern London "stores" fire protection has been given very careful consideration; fire-resisting materials have been used, and the buildings divided into blocks with fire doors between, while every care has been taken to minimise the risk and spread of fire and to deal automatically with any accident that should happen. Installations of fire alarms and sprinklers, both automatic in their action, have been provided and so arranged, with hidden piping, that there is nothing unsightly to mar the beauty of the showrooms. Very substantial discounts are allowed off the premium for structural excellence, as well as in respect of the fire-detecting and extinguishing devices with which such "stores" are equipped.

Insurance offices, I suppose, are most interested in warehouses and factories, and it is from this source that the bulk of our premium income is derived. Legislation, trade unionism, and many other factors, among which I think not the least important has been a genuine desire on the part of the better and more far-seeing type of employer to improve the conditions under which his employees spend their working hours, have combined to affect industrial buildings, while I know many architects now specialise in the scientific laying out of factories.

---

* Extracts from a paper read before the Bristol Society of Architects. Mr. Lloyd is chief surveyor to the Northern Assurance Company, Ltd.

Warehouses and Factories

As a result, one sees every day manufacturing concerns laid out with forethought: handsome buildings with space and provisions for future extensions, comfortable canteens where good meals can be obtained, recreation grounds, and sometimes even spacious lawns, interspersed with gay flower beds, instead of unsightly refuse-strewn yards. Conditions such as these must conduce to better work and tend towards better relationship between employer and employed, and I think the success of some of our big undertakings—the names Cadbury, Fry, Lever, Wills, and many others, suggest themselves at once—seems due in no small measure to the well-designed factories they have built, and to the general attention they have given to the comfort and betterment of their work-people.

Now that local taxation is gradually driving so many industries from the big towns into more rural districts, there seems a good opportunity to lay out model factories with north-lighted shed buildings instead of storied structures, to separate such sheds by division walls, so as to segregate different processes and to isolate the more hazardous operations, such as wood-working, from the portions where the greatest value in the form of raw materials and finished products are to be housed. Such separation will result in greater immunity from fire, while a saving in premium will also be effected.

Insurance Office Methods

I would like to go somewhat minutely into the manner in which the offices endeavour to fix, by more or less scientific means, adequate rates for certain trades, and these trades are, generally speaking, those whose business has proved unprofitable. Fire insurance may be very roughly defined as a scheme for the distribution of loss. Instead of the loss falling to be borne by the individual whose property has been destroyed, it is borne in easy proportions by a number of people who have contributed by paying premiums to an insurance office. The offices classify their obligations under different headings, and are thus able to compare the revenue derived from a certain trade with the losses paid in respect of fires happening in that trade. They then endeavour to fix such rates as will make a particular trade pay its own losses. Offices have their combined experience to guide them, and comparisons are always made over a period of years. When such a comparison shows a bad loss it is always the aim of the offices to seek an improvement in the risk at a moderate rate rather than to recoup past losses by enhanced premiums.

They endeavour to rate different risks to a large extent on their own merits and the usual plan is to fix a " normal " rate for a certain trade. This normal rate is loaded with " extras " on account of defects in construction and for other hazards, some incidental to the trade itself and others common to many trades.

By improving construction, erecting fire doors, removing hazardous goods to isolated stores, and by many other means some of these loadings can be avoided, and the offices invariably prefer such improvements to enhanced rates. In addition, inducements are offered by way of discounts for fire-extinguishing devices, special fire-resisting construction, etc., so that the careful insurer has in his own hands the means of reducing his expenditure on insurance if he cares to do so.

To pass on to the loadings. These vary in different trades, so I have just picked out the most important items for which extra charges are imposed, but all of these do not of necessity occur in the scheme of rating of any particular risk.

Construction and Rating

The normal rate assumes good construction, without asking for anything in the nature of a special fire-resisting building, and the first extra is imposed under the head of—

Defective Construction.—Thus, a brick and slated building would not be penalised; ordinary glass would be allowed in a slate roof, but a roof wholly of glass, even in metal framing, would be classed defective, as would a raised " lantern light " of glass in a wood frame; corrugated iron could be passed as a roof covering, but as a material for outside walls it would be inadmissible except at an enhanced rate. Outside walls of timber and timber or felted roofs would also be defective.

The next assumption is that the building is more or less free from external risk, so that, firstly, it must be separated from any adjoining building by a solid party wall carried through and above the roof. Such a wall must be without doorways or other openings unless such apertures are protected by double fire doors—that is, a door on each side, separated by the thickness of the wall. In some cases where specially hazardous trades are concerned or where the areas of the adjoining buildings are very large, such fire doors must be six feet apart across a fireproof compartment, built up from the basement to form a fire lobby. Where there is not a perfect separation as above defined the rate may either have to be increased or the two imperfectly separated buildings may have to be treated as one for rating purposes and the defects in both combined to swell the rate. Exposure rates may also have to be charged in some cases for windows overlooking adjacent roofs or opposing windows in another building across common areas or light wells. In congested city areas the carrying of the dividing walls between different buildings well through the roofs is one of the greatest factors in preventing the spread of fire.

" Height " is the next cause for increasing the normal rate. The ideal building is of the shed type, and each storey added to a building increases the risk of fire, as there is one risk on top of another, with the further hazard of collapse with its consequences, and the greater difficulty of dealing with any outbreak as the building soars higher from the ground.

Size is the next feature, and extra rates are often charged under the head of cubical capacity or floor area, while in some cases the number of hands employed in the building, in others the number of machines worked by power, in cotton mills the number of spindles, and in flour mills the length of roller contact or the number of grinding stones is taken as the measure of its size. This " restriction of size " regulation, as it crops up in local building by-laws and in the London Building Act, shows that the authorities also appreciate the danger of very large areas without division walls to confine a fire within a reasonable space. Next to the provision of wide streets this regulation does more to prevent what may be termed " a conflagration " than almost anything.

Internal Arrangements

The foregoing more or less complete our ordinary loadings, so far as the outside of the building is concerned. Coming to the internal arrangements we find a penalty for—

Ceilings, wood linings, and partitions. The danger of wood or textile ceilings and matchboarded walls is fairly obvious. Not only is inflammable material present, but it is generally so fixed with air spaces behind and between ceilings and joists that draughts are induced and rapid combustion assured when an outbreak occurs. It is astonishing how much even an ordinary lath and plaster ceiling will retard a fire.

Floor openings is the next heading under which charges are imposed. Staircases, ladders, trapdoors, well holes, hoists, trunks, spouts, and similar openings through a floor are charged for unless they conform to certain regulations. Fire travels rapidly from floor to floor in a building by means of such openings. Stone, concrete, or iron stairs enclosed in brick walls with a door to every opening are generally allowed. Metal trunks or spouts with an iron shutter to every opening, and lifts or hoists enclosed in brick or six-inch concrete walls with a fire door to every opening are similarly exempt from penalty, while such necessary apertures as belt shaft and pipe holes are also admitted, provided they are kept down to four superficial feet. One window opening from a staircase into each floor is allowed, provided it does not exceed sixteen superficial feet and that it is glazed with wired glass, in accordance with fire office rules.

I am constantly coming across buildings of practically fire-resisting construction where the concrete floors are almost entirely nullified, owing to the presence of open hoists and open wood stairs, even where there is perhaps already an enclosed regulation staircase.

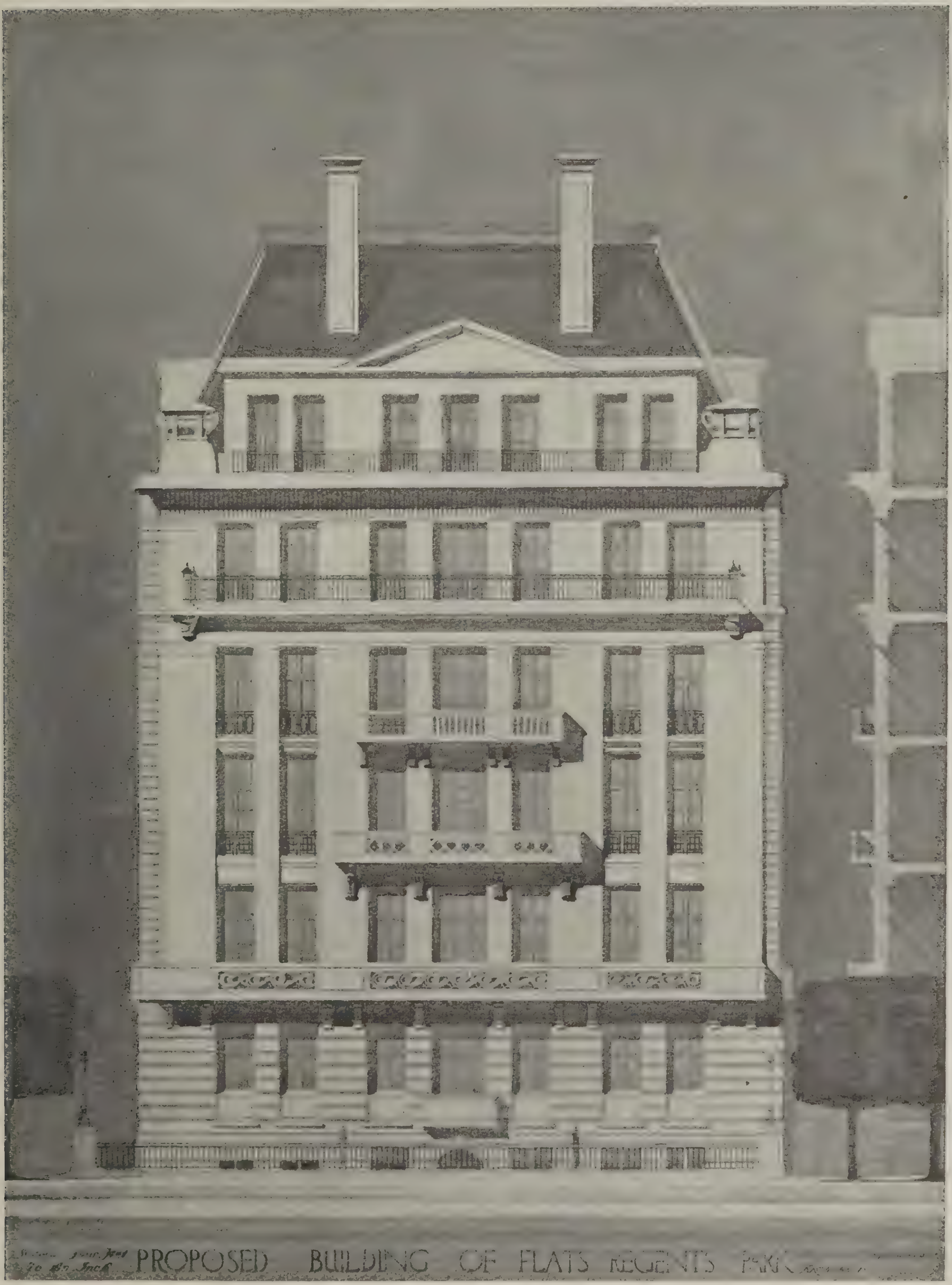
Steam boilers, gas engines, gas producers, and oil engines placed in a building warrant an extra rate, but this again can be avoided by placing such plant in a fireproof compartment with external entrance or a fire door if internal communication is necessary.

It is not often necessary to charge under the headings of lighting and heating. The extras are intended to discourage the use of oil lamps, stoves with long lengths of smoke-pipe, high-pressure hot water, and other objectionable modes of illuminating and warming buildings. Electric light and power installations should be carried out in accordance with the Institute of Electrical Engineers' rules, and when conduit is used it should be of the screw barrel variety.

Any further loadings are as a rule imposed for processes or hazards applicable to the trade or business conducted on the premises and over which an architect designing a building or group of buildings would in a general way have no control. A consultation with his client's office would, however, as already pointed out,

Current Architecture. 86.—Residential Flats, Regent's Park, London

William Hunt and Edward A. Hunt, FF.R.I.B.A., FF.S.A., Architects



This proposed building intended to be built adjoining an existing block of flats, has been planned so as to utilise the main entrance in the existing building, and is, we understand, to be constructed with a steel and concrete frame, faced externally with Portland stone. The pierced balcony to the second floor is to be of stone, while the balconies to the fourth and fifth floors, as well as the balconettes, are to be of bronze and wrought iron. Accommodation is provided for twelve large flats arranged with reception rooms en suite, the larger flats having a gallery, arranged so as to be used in conjunction with the reception rooms. The flats are to be equipped with a number of new labour-saving devices.

(Royal Academy Exhibition, 1921.)

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

probably result in suggestions whereby the more risky processes of a proposed factory could be confined or isolated, and the cost of insurance kept down.

I think I have given pretty fully the defects which the combined experience of the offices has taught us to look for in a building, and there is no doubt that a good many of the features for which we impose extra charges can be avoided, though it is always difficult to convince the prospective insurer of the dangers attending some of these features. Public bodies draw up by-laws and insist on their requirements being carried out to the letter. We have no such power, and a reduced rate is the only argument at all likely to convince a client that it is worth his while to make changes.

The stoppage of work so often caused by a large fire and the general dislocation of business consequent thereon are serious considerations to a trader, and, of course, a great many firms realise this. Such firms are, as a rule, only too glad to take our advice, and I know a great many large factories (some of them dealing with such highly inflammable substance as celluloid) where every precaution has been taken to prevent fire and to localise any accident that should occur in spite of such precautions. One factory I know where the owners have gone so far as to build massive buttressed brick walls in the spaces between different buildings, simply to obviate the spread of fire from one department to another.

I might now mention some of the various rules and regulations drawn up by the Fire Offices' Committee.

There are rules and specifications for fireproof doors, shutters, and compartments, and where fire doors are required they should be built to our rules, which are the result of exhaustive test.

There are also very voluminous and complete rules respecting automatic sprinklers, external drenchers, and automatic fire alarm systems. The automatic sprinkler system of fire protection deserves a paper to itself. It is a system of water-piping laid through a building with heads at short intervals. A good water pressure and an unlimited supply are both essential. Each head has a fusible joint which melts at a certain temperature and automatically releases the water in spray form on the seat of the fire, acting both as a detector and an extinguisher, becauses the opening of a head causes an alarm bell to ring outside. External drenchers are similar heads fixed outside a building to form a water screen and prevent the spread of fire from one building to another. Such heads are non-automatic and are operated by a valve. There are various systems of fire alarms depending on thermostats, electrical or mechanical devices, and to be effective they should be connected by wire with a central fire station.

Short rules and specifications are printed for chemical extinguishers, and when such appliances are ordered they should be required to conform to Fire Office or Board of Trade standard.

Wired glass and electro-copper glazing have also been dealt with, and regulations framed, which should be consulted when this form of protection is contemplated for skylights and windows. Such methods of glazing are remarkably effective, and a lot can be done to protect a building from the danger due to direct or diagonal exposure to neighbouring property by adopting them.

The most important rules from an architect's standpoint I have left till the last, and these are what we term the rules for Standard Fire-Resisting Construction.

There are five standards, decreasing in strictness: 1a, specially drawn up for cotton, worsted, woollen, flax, and paper mills. 1b, the corresponding standard for general use, II., III., IV.

Substantial discounts are allowed off the premiums for buildings built to these standards, and in most cases the discounts are also, in a lesser degree, granted for the insurance on the contents of such buildings. The standard 1b construction has been adhered to in the erection of several large furniture depositories. Far too many of these depositories have been destroyed by fire, and you can imagine the loss has been considerable, with the "household gods" of so many different owners collected under one roof. Now when a householder stores his belongings he generally pays the extra premium due to such storage himself. This is almost always about 3s. per cent. higher than the rate asked when the goods are in a private house, and it is occasionally more. It is, therefore, an excellent advertisement for a furniture storer when he can not only offer his customers the comparative safety of a fire-resisting warehouse as a harbour for their belongings, but at the same time steal a march on his competitors by showing a considerable saving in insurance premium to those who entrust their goods to his care.

Publication Received

Timber Technicalities. Definitions of terms used in the home and foreign timber, mahogany, and hardwood industries, the sawmill and wood-working trades, as well as those employed in connection with architecture and building construction. Compiled and edited by Edwin Haynes, editor of the "Timber Trades Journal." Price 6s. net. William Rider and Son, Ltd., 8 Paternoster Row, E.C.4.

Labour Wage Fluctuations:

A "Percentage" Method of Adjustment

By W. Parry-Jones

The insertion in post-war building contracts of a fluctuation clause has produced for the quantity surveyor some new and interesting problems for solution, not the least of which is that of adjusting the several increases in the rates of wages for labour that have occurred during the last eighteen months.

It was recently stated in an article dealing with the adjustment of accounts that "Rises in the rates of wages are the most easily dealt with. All that is necessary is for the clerk-of-works to keep a record of the hours worked each week by each man, usually obtained from the contractor's time book and checked by observation, the total amount of increase in wages up to date being added at each valuation."

This is, I believe, the generally accepted method of adjustment, and, except for its simplicity, has little to recommend it. It lacks finality, it is open to abuse, and the extent of the building owner's liability under this head is unknown until some months after the completion of the building. Its chief defect is, however, that it is not based on the contract amount, as variations on lump sum contracts should be: the "percentage" method is; hence its *raison d'etre.*

This method depends for its successful application on two groups of percentages agreed to between the architect's quantity surveyor and the contractor, viz., the percentage of labour in each trade (see Table I.) and the percentage of each class of labour (see col. B Table II.). The priced schedule to be used as a basis upon which agreement would be reached.

Before agreeing on the percentages in Table I., it is necessary to have a clear idea as to what costs are to be included

Table I.—Showing how the total percentage of Labour on the contract is obtained.

Percentage of Materials. %	TRADE.	Percentage of Labour.	Percentage of each Trade to the contract amount.†	Product of two previous columns in decimals.
40	Preliminaries*	60% of	2 % =	1·2000
5	Excavators	95 ,, ,,	2¼ ,, =	2·1375
50	Concretors	50 ,, ,,	8 ,, =	4·0000
50	Bricklayer & Mason ...	50 ,, ,,	25¼ ,, =	12·6250
75	Tiler	25 ,, ,,	5 ,, =	1·2500
60	Carpenter	40 ,, ,,	9 ,, =	3·6000
40	Joiner, &c.	60 ,, ,,	20 ,, =	12·0000
35	Plasterer	65 ,, ,,	9¾ ,, =	6·3375
75	Smith	25 ,, ,,	6¾ ,, =	1·6875
75	Plumber ... ... External & Internal	25 ,, ,,	3¾ ,, =	·9375
75	Glazier	25 ,, ,,	1 ,, =	·2500
40	Painter	60 ,, ,,	4⅜ ,, =	2·6250
25	Gasfitter	75 ,, ,,	1 ,, =	·7500
68	Drainlayer	32 ,, ,,	1⅞ ,, =	·6000
			Total Percentage of Labour =	50·0000

* These items may be split up and added to their respective trades if found more convenient.

† The totals of some trades may have to be adjusted before working out these percentages. The value of the materials which are not strictly germane to the trade under which they appear in the bill of quantities, e.g., steel reinforcing bars in the Concretor, should be transferred to their proper trade.

under the headings "labour" and "materials." The former is usually intended to cover labour employed on the site, and the latter, materials delivered to the site, both items to include the contractor's profit. This can be altered to suit varying circumstances; for instance, in the case of a contractor who has his own joinery workshops, it may be more convenient to include the labour employed at the shop under the "labour" item instead of the "materials" item.

With regard to the question of plant, insurance, and establishment charges, these are dealt with, for the purpose of this adjustment, as follows:—Plant and insurance to be included in the materials item of the "preliminaries," and the establishment charges in that of the materials item of the "trades." These are matters of detail which any experienced surveyor would be able to allow for.

It is advisable, before working out the value of the labour extra, to adjust any variations which involve a considerable omission from or addition to the contract. The example and tables given with footnotes will sufficiently explain the whole process.

This system has been carried out by the author on several large contracts with most satisfactory results to all parties concerned, and although it has been subjected to various tests, its fairness has remained indisputable. The process can be much simplified by attaching to the bill of quantities a complete schedule of materials to be priced out on the principles laid down above, i.e., the estimator should insert the cost of materials delivered on site plus the contractor's profit, the latter given separately if more convenient. He should also state the percentage for "on costs" included in the tender. If this is done, the adjustment of labour increases will be obtained with a degree of accuracy and fairness which, as far as the writer knows, could not be obtained in any other way.

Table II.—Showing percentage advance in rates of wages of labour on various dates :—

A	B	C	D	E	F	G	H	K
Class of Labour.	Proportion of each %.	Contract Net Rate	Net Rate on 18/10/19.	Increase %	Product of Columns B & E in decimals.	Net Rate on 1/1/20.	Increase %	Product of Columns B & H in decimals.
Operatives	60	1/7	1/8	$5\frac{5}{19}$	3·2	1/9	$10\frac{10}{19}$	6·3
Labourers...	40	$1/4\frac{1}{2}$	1/5	$3\frac{1}{33}$	1·2	16	$9\frac{1}{11}$	3·6
				Total	4·4		Total	9·9
			Net Rate on 1/5/20.			Net Rate on 1/7/20.		
Operatives	60	1/7	2/-	$26\frac{6}{19}$	15·8	2/4	$47\frac{7}{19}$	28·4
Labourers...	30	$1/4\frac{1}{2}$	1/9	$27\frac{3}{11}$	8·2	2/1	$51\frac{17}{33}$	15·5
Special Labourers*...	10	$1/4\frac{1}{2}$	1/10	$33\frac{1}{3}$	3·3	2/2	$57\frac{19}{33}$	5·7
				Total	27·3		Total	49·6

* This class was introduced for the first time on 1st. May, 1920.

EXAMPLE.

	£	s.	d.	£	s.	d.
To amount of Contract, dated 1/4/19				20,350	0	0
Less Provisional and P.C. items	200	0	0			
,, Balance of omissions as per variation account	150	0	0			
				350	0	0
				20,000	0	0
To value of work executed, measured and priced out at schedule rates.						
From commencement and prior to 18th Oct., 1919 ...	5,000	0	0			
,, 18/10/19 ,, ,, 1st Jan., 1920...	1,000	0	0			
,, 1/1/20 ,, ,, 1st May, ,, ...	2,000	0	0			
,, 1/5/20 ,, ,, 1st July, ,, ...	2,000	0	0			
Balance of work remaining to be executed after 1/7/20	10,000	0	0			
	20,000	0	0			
50% (See Table I.) of £1,000 at $4\frac{2}{5}$% (See Table II.) ...	22	0	0			
,, ,, £2,000 at $9\frac{9}{10}$% ,, ...	99	0	0			
,, ,, £2,000 at $27\frac{3}{10}$% ,, ...	273	0	0			
,, ,, £10,000 at $49\frac{3}{5}$% ,, ...	2,480	0	0			
Increased cost of labour				£2,874	0	0

£2,874 is approximately $14\frac{1}{8}$% on the contract amount of £20,350. This percentage is useful when making out certificates for payment on account.

New Office Buildings, Cardiff Docks

The Salvage Association (London) have just entered into a contract for the erection of a dignified block of office buildings at Cardiff Docks, from the designs of Mr. Henry Budgeon, F.R.I.B.A. The nature of the site will occasion a great deal of excavation to carry the foundations down to gravel, particularly as it is nearer to the river than most of the big office buildings that have of late years been erected in the neighbourhood of Cardiff Docks. It is a new departure for this class of building to be situated on the west side of the canal, as before they have been restricted mostly to the sites nearer the Exchange.

Reinforced concrete, faced with bathstone, will be used in the construction of the building, and there will be very little woodwork. Ultimately it is proposed to carry the offices up to five storeys, but for the present the work will be limited to the first three. The accommodation will provide large general offices, and numbers of private rooms for the staff.

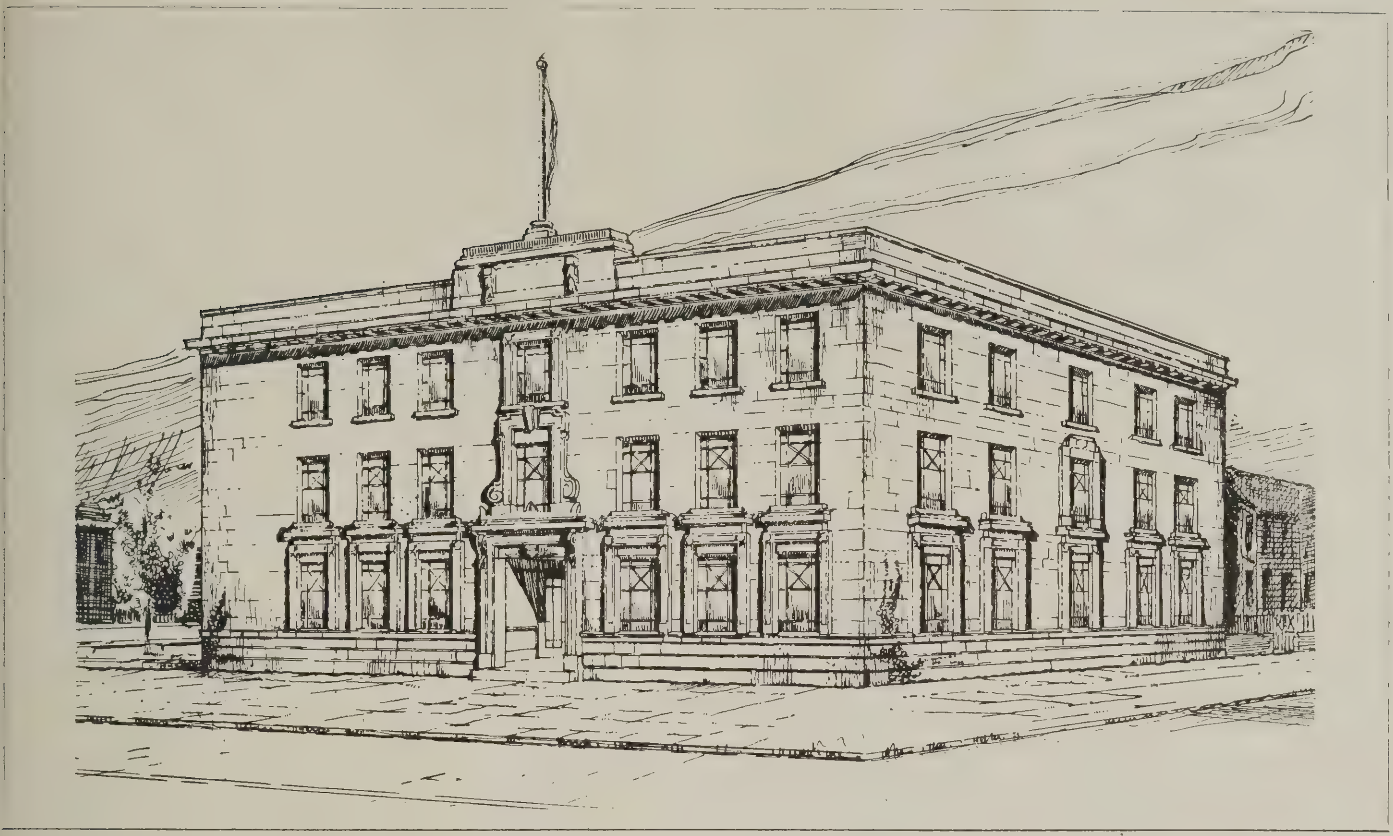
The Salvage Association (London) is a body incorporated by Royal Charter to deal with shipping casualties on behalf of those concerned in vessels and cargoes. It represents Lloyd's underwriters and various other insurance companies, and its business consists of dealing with damages to shipping in all parts of the world. The new buildings will provide adequate accommodation for their many departments. The Secretary to the Association is Sir Joseph Lowrey, K.B.E., and its head office is 19 Birchin Lane, London, E.C.3—the present Cardiff office being at 47 Mount Stuart Square. The contractor for the new building is Mr. F. J. Thomas, of Cardiff.

Making High Wage Rates Practicable

By Charles Cressey, M.S.A.

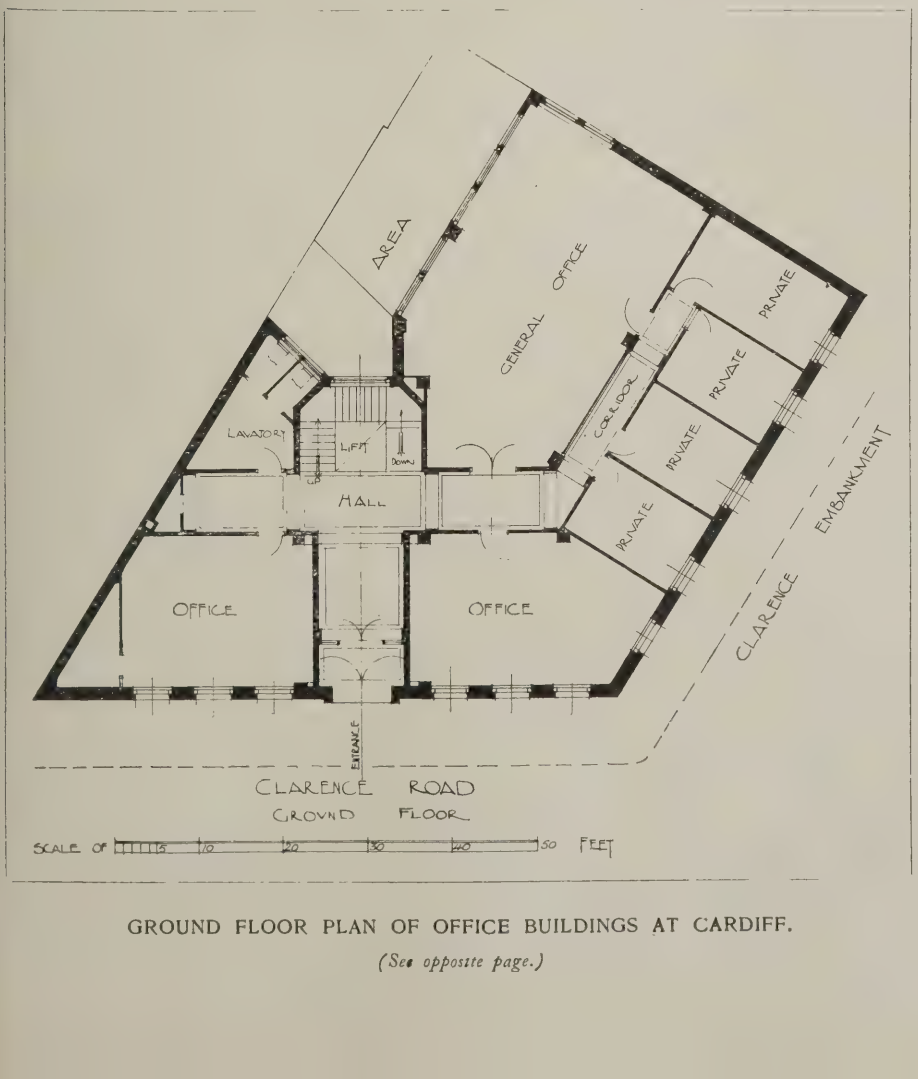
The worker is an agent of industrial production so greatly affected by surroundings and conditions beyond his own control that the question of his personal efficiency becomes secondary to the one of arrangements made for his personal worth to demonstrate itself. A clear understanding is therefore necessary of the underlying causes of inefficiency—actual or probable—before good conditions can be planned to promote efficiency. The ineffective worker is perhaps too often regarded as the case for treatment when he is but the helpless expression of an industrial sickness rooted in the administrative work of the employer. It is a troublesome feature of inefficiency that rarely exists alone, or as an absolute and distinct condition, being usually in combination with some degree of efficiency. This measure of partial effectiveness accounts for much of the tolerance of inefficiency in both workers and working conditions.

An accumulation of experience is now available to prove that the producing power of workers may be increased considerably and high wages paid where the class of work permits standardised production. The question under discussion should therefore largely refer to that mass of average and variable work on which the opportunity for repetition or standardisation is impossible or limited. It is instruc-



NEW OFFICE BUILDINGS AT CARDIFF DOCKS. HENRY BUDGEON, F.R.I.B.A., ARCHITECT.

tive to note that happy-go-lucky methods and astonishing inefficiency occur chiefly where labour is plentiful and low-priced. Highly-paid labour has, by striking contrast, almost invariably forced in the long run the highest economy in material, greater efficiency in the worker and supervision, and better industrial plant, sanitation, and working conditions, though the stress of transition from low to high wages has resulted in some disaster.



GROUND FLOOR PLAN OF OFFICE BUILDINGS AT CARDIFF.

(See opposite page.)

Though somewhat unusual, it would seem obvious and just that the efficiency of the employer and his whole machinery of employment should be questioned as thoroughly as that of the worker before deciding for or against a high rate of wages. Accepting the well-known results of highly standardised production as one method of meeting an advanced scale of wages, the solution for unstandardised work seems to live most surely in a general plan which definitely prepares the work for the worker.

There are few industries to which such a plan cannot be applied with advantage—it is the essential base and spirit of standardisation applied to unstandardised conditions. There is no greater cause of extravagance in industrial life than the absence of efficiency preceding the actual labours of the highly-paid worker. That habitual feverish anxiety which demands immediate beginning of work in shop or field robs many a worker of both better pay and steady employment. Too few business men, and fewer of the general public, grasp the well-founded truth that success or failure in productive enterprise is largely determined before the so-called practical work is even started.

Preparation and foresight are the groundwork and backbone of efficient production, and there is but small chance of high pay to workers or profit to anyone where work properly classed as preparation has to be done as best it may during the progress of actual work. In all work needing forethought and plan, good results usually spring from a careful choice or combination of alternatives—each more or less practical, but faulty if used in haste.

The drawing-board and blue-print have gradually become the very foundation of modern efficiency and the salvation of highly-paid labour. Nothing so successful or so wide in its scope seems to have developed from recent efforts to meet wage conditions than the system of segregated and detailed instructions for workers. This system, though not yet generally recognised as a common movement, provides for each worker or group of workers all the details of selected parts or units of work which will permit go-ahead production without a thought necessarily on their part of relation to the whole. These details—largely in the form of shop drawings supplemented by lists and schedules—are office work prepared in advance from the general design, plans, or scheme for the complete work, which, when passed to shop executives and workers, permit the most efficient progress and high speed.

The modern feature of this old idea lies in the greatly magnified amount of office work which precedes the shop work, always with the view to concentrating the highly-paid efforts of the worker on purely practical production, free of the old-fashioned mixture of piecemeal thinking and doing. This system of dismemberment in advance allows of the combination of somewhat similar parts of many jobs on selected machines and trained workers with economy and an approach to standardisation.

Promotion of personal efficiency in the worker, physically, technically, and socially, is now so well planned and proven that tactful adoption of accepted methods is the chief need rather than continued trials of new ideas and the loss of goodwill of the worker.

In conclusion, I submit that the driven worker has no place in a permanent plan for industrial efficiency; that no worker, however skilled and willing, can outstrip the handicap of a poorly-thought-out plan of action, poor equipment, overworked, confused superintendents, delayed material due to delayed orders, changes to work in progress, and all the incidentals of loss due to impatience, haste, and inefficiency at headquarters. There is a force of immense power latent in every good worker which welcomes good management, good tools, and especially good work well planned.

Fuel Efficiency

In a lecture on Fuel Efficiency, at a meeting of the Metropolitan Technical Section of the Local Government Officers' Association at Caxton Hall, Mr. E. W. L. Nicol, engineer and fuel expert to the London Coke Committee, said that probably the most significant feature of these recurring wages disputes in the coal mining industry was the fact that the winning of coal in this country tended to exceed its commercial value as fuel. Coal was something more than mere fuel, and in addition to increasing the output, the real and lasting solution of the wages problem lies in making it yield a greater contribution towards national wealth. Coal must no longer be regarded as a fuel but as a raw material from which fuel among other things could be produced. Coal consumption per unit of production must be reduced by adopting more efficient methods of use.

Story of the Edinburgh Architectural Association

The Edinburgh Architectural Association has had its story told by one of the oldest members, and one of its founders, Mr. George Shaw Aitken, who was born in London eighty-five years ago. The work is in MSS., several copies of which have been typewritten through the kind offices of Mr. Frank E. B. Blanc; two copies have been given to be placed in the archives of the Association, one has been given to Mr. Aitken, resident near Edinburgh, and Mr. Blanc has retained one for his own use. The name of an even more aged architect appears in the Transactions, that of Sir R. Rowand Anderson.

The narrative is entitled "History and Reminiscences of the Edinburgh Architectural Association," and it is based on the Transactions, minutes, Mr. Aitken's own recollections, and those of the senior members. In his concluding sentences Mr. Aitken remarks: "It is a great pleasure to think of the personalities who have emerged into the positions they adorn, and who, but for their connection with the Association, we would not have known so much about; and the kindly disposition to put the research and knowledge and experience at the general disposal of the members, of which the Sketch Books, the volumes of Transactions, and the sunny memories of the past are the vital fruitage. And, besides all this, we cannot forget the influence which the Association must have effected in other places and distant lands, by one-time members who have found their way there."

Amongst those who were presidents, and have given papers or lectures, are included Sir R. Rowand Anderson, 1895-6, now in his eighty-seventh year; the late Robert Morham, an original member, afterwards city architect; the late David MacGibbon, Dr. Thomas Ross, Professor Baldwin Brown, Henry F. Kerr, the late W. Hamilton Beattie, Alexander Ballantine, John Bryce, R. T. Shiels, David Robertson, H. J. Blanc, A. Hunter Crawford, Thomas Bonnar, John Kinross, and others. Besides their papers and lectures, books by some of these have been added to the literature of the profession, such as MacGibbon and Ross on "Castellated" and "Ecclesiastical Architecture"; "Sketches in Italy," by Sir Rowand Anderson; "Civic Study of Dunfermline," by Professor Patrick Geddes; "Three Scottish Abbeys," by G. S. Aitken; "Memorial Cross of Edinburgh," by Thomas Arnold; and works by Professor Baldwin Brown, and a "Life of George Meikle Kemp," architect of the Scott Monument, by Thomas Bonnar.

As at present constituted the purpose of the Edinburgh Architectural Association (Edinburgh Chapter of the Institute of Architects) is to organise and unite in fellowship the architects practising within the territorial area assigned to the Chapter as its sphere of influence; to combine their efforts for the general advancement of architecture, and for the promotion of the æsthetic, scientific, and practical efficiency of the profession. It is now the oldest Association of the profession in the kingdom except the R.I.B.A. and the London Architectural Association, and was founded in 1858 on the suggestion of Mr. G. S. Aitken, who was born in London of Scottish parentage in 1836.

The first meeting was held on January 6, 1859, by a group of enthusiastic young architectural students resident in Edinburgh, pupils of men in practice, with the exception of Thomas Henderson, a publisher's assistant, with a taste for art. There was at that time a society called the Architectural Institute of Scotland, founded in 1850, the membership of which embraced architects in Edinburgh, Glasgow, Dundee, and Aberdeen, which printed Transactions covering the years 1850-60, containing valuable articles, such as that on "Building Stone," by Professor George Wilson; "Tree Growth," by Professor Balfour; and "Wrought Iron," by Thomas Davies. The lithographs by Thomas Hamilton showed each side of the West Bow, before being cut through by Victoria Street, and were an interesting sidelight on old Edinburgh. A good library was acquired which was passed over to the Architectural Association when the Institute fell into abeyance.

As pupils were ineligible for membership of this Institute, these enthusiastic young men decided to found a society of their own, and met to deliberate in the home of Mr. Aitken. Their names were Thomas Henderson, R. W. Aitken, W. Goldie, Robert Morham, and Charles Robertson. At a later meeting at 20 Clarence Street, with the addition of W. C. Colbourne, Edward Traquair, and J. A. Hamilton, a constitution was drafted, monthly meetings were decided upon, at first rather after the fashion of a literary and debating society, but which once set a going, by natural evolution, became, with modifications, without a break the Association we know to-day.

The first ordinary meeting was held in Johnston's, now Darling's, Hotel, January 6, 1859, when an inaugural address was given by the president, Mr. G. S. Aitken, who presented the Association later with various drawings, and suggested an exhibition scheme, which was carried out. Several of the early members had passed through the "School of Design" for freehand drawing, clay modelling, and water-colour, under Mr. Christie and Mr. Dallas.

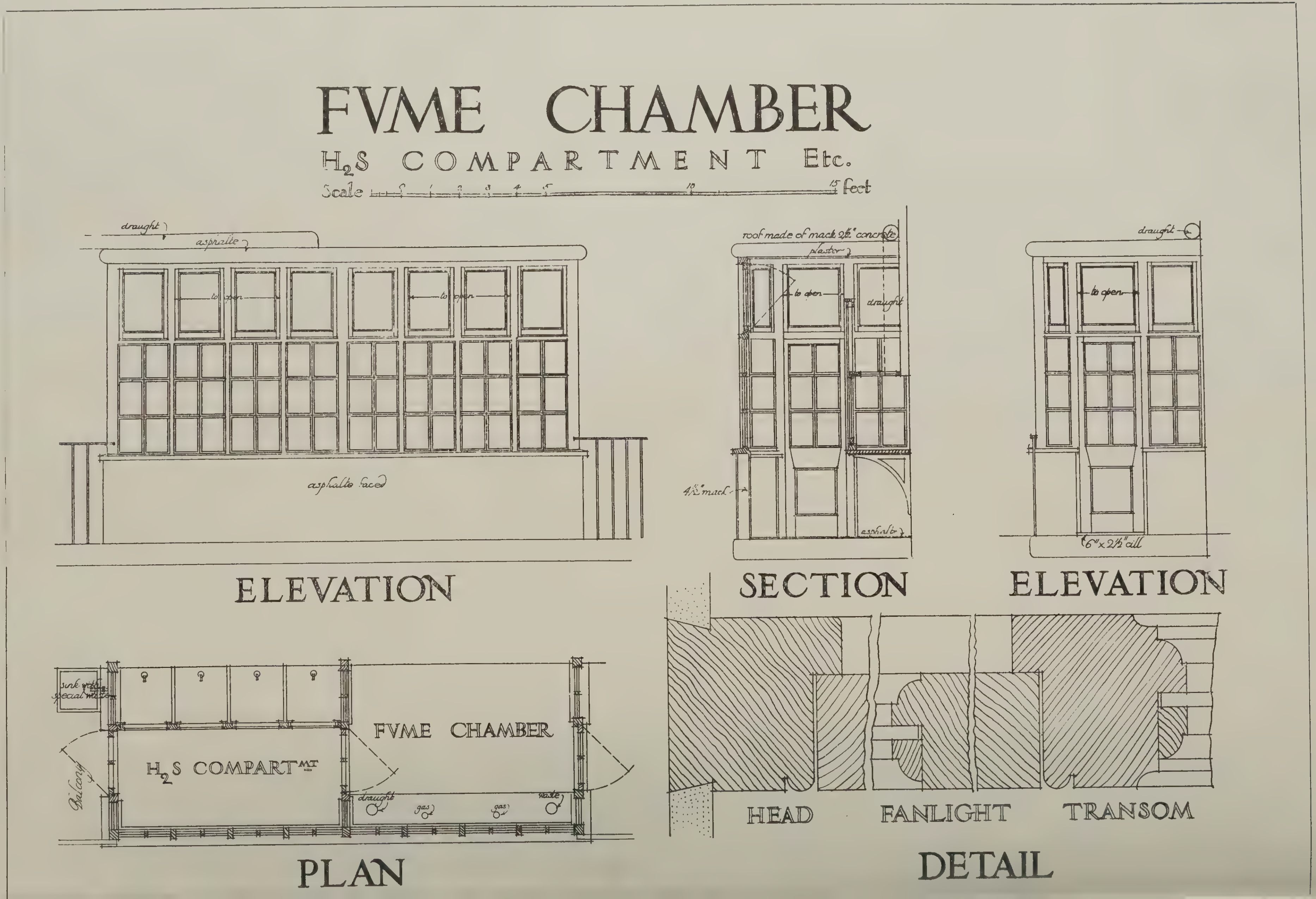
Some of the papers and writers thereof were notable, such as that on St. George's Hall, Liverpool, by J. M. Brydon (from Dunfermline), afterwards known as architect of the Local Government Board Offices, Whitehall, and restorer of the Roman Baths, at Bath. Later he sent a paper on "The Queen Anne Revival," in the spirit of which he was then engaged on Chelsea Town Hall and Public Library in that style. Mr. R. Rowand Anderson contributed papers on "Domestic Architecture of France and Italy during the Middle Ages," another on "Byzantine Architecture." Mr. Hippolyte J. Blanc was secretary, president, contributor of many papers, and donor of £500 to Heriot's Hospital for the study of architecture. In a paper by Mr. Blanc on the claims of Dr. Balcanquall and Inigo Jones to the honour of its erection, he concluded in favour of William Wallace, the King's master mason. Dr. Ross has also said that there is none of Inigo Jones' work in Scotland. Dr. Joseph Anderson's subject was "Celtic Art and Architecture." Papers by Professor Baldwin Brown were on "Early Scottish Architects" and "The New Town of Edinburgh," illustrated by a copy of Adam's design for the north side of Charlotte Square, and that of Playfairs for the lands at the base of the Calton Hill. President John Maclachlan,

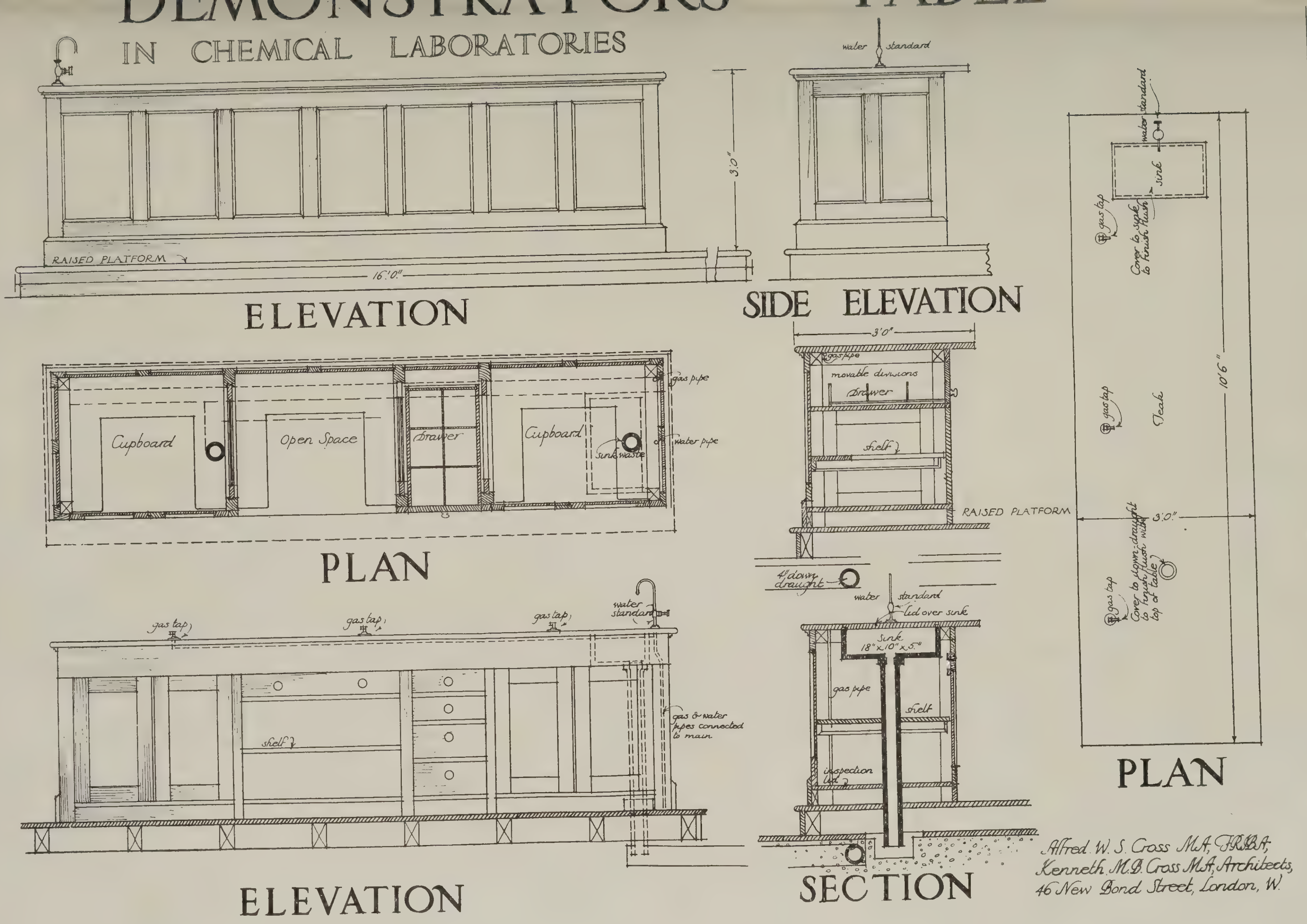
THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Practical Notes for Architectural Draughtsmen (Series II.).—Technical Schools and Science Buildings.

2.—Fume Chamber ; H_2S Compartment, etc.

A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, M.A., Architects





Alfred W. S. Cross M.A. F.R.I.B.A.,
Kenneth M. B. Cross M.A. Architects,
46 New Bond Street, London, W.

This is the second illustration in the valuable new series of plates showing details of Technical Schools and Science Buildings, the first of which appeared in our issue for May 4. Other examples will be given at regular intervals. Some notes on the above detail will be found on page 659.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

in a paper on "Old Edinburgh," referred to the fact that the cellar in the High Street, where the signature of the Treaty of Union was completed, was opened up when he was professionally engaged in the erection of the National Bank there. A lecture by Professor Blackie was given on the "Philosophy of Architecture."

Mr. Alexander Ballantine, while speaking on stained glass, said that Dr. Robert Lee's Church of Greyfriars was the first Presbyterian church to use scripture figures on glass. The Rev. Robert Scott Mylne lectured on the Mylne Family; J. M. Gray on Raeburn; Birnie Rhind on "Sculpture as Applied to Architecture."

Quite a feature was the number of artists who became members, including John Smart, Hugh Cameron, Clark Stanton, James Cassie, George Hay, and Dr. W. D. McKay, A.R.S.A., now secretary of the Royal Academy. Interesting notes of lectures delivered and places visited occupy the larger portion of this useful and important history of what engaged the architectural mind of Edinburgh during the past half-century.

Besides this monumental work, and his own professional work while resident in London, Manchester, and Dundee, Mr. Aitken developed a talent for water-colour and executed many drawings of scenery in England and Scotland, a restoration of Holyrood Abbey, an illustration of Solomon's Temple, published by the R.I.B.A., Scottish Abbeys, and co-operated with Professor Geddes in a book on Dunfermline for the Carnegie Trustees. This last contribution he has made to the history of architecture in Scotland is not the least valuable of a long life of useful service.

R. C.

Enquiries Answered

A Question of Contract.

SUBSCRIBER writes: "In the erection of a recent building the work was carried out under a percentage basis, the R.I.B.A. model contract having the following clause attached:

"'The contractor agrees to supply the materials, carriage, labour, cartage, plant, etc., necessary for the proper carrying out of the work shown on the plans and in accordance with the specification for a profit of —— per cent. upon the prime cost incurred for the whole.

"'Such prime cost shall mean the sums paid to the merchants after deducting all trade discount but not deducting discount for cash. Also, it shall mean the sums paid for labour and horse hire which shall be at the current local rates in the district at such times as the work is executed.

"'The —— per cent. profit charged on the prime cost of materials, carriage, labour and cartage, is to cover office expenses, use of all scaffolding and plant, and supervision, and all amounts paid for insurance of workmen, etc.'

"On submitting his final account the contractor included a charge for his electrically-driven woodworking machinery. Is such a charge admissible under this contract?"

—So far as can be seen, without having the full text of the contract before me, the contractor can certainly claim the cost of running machinery used in connection with the work, but he should only charge the actual cost of running as usually calculated for purposes of costing his ordinary work. It is presumed that the machinists' time has been allowed separately.

I.

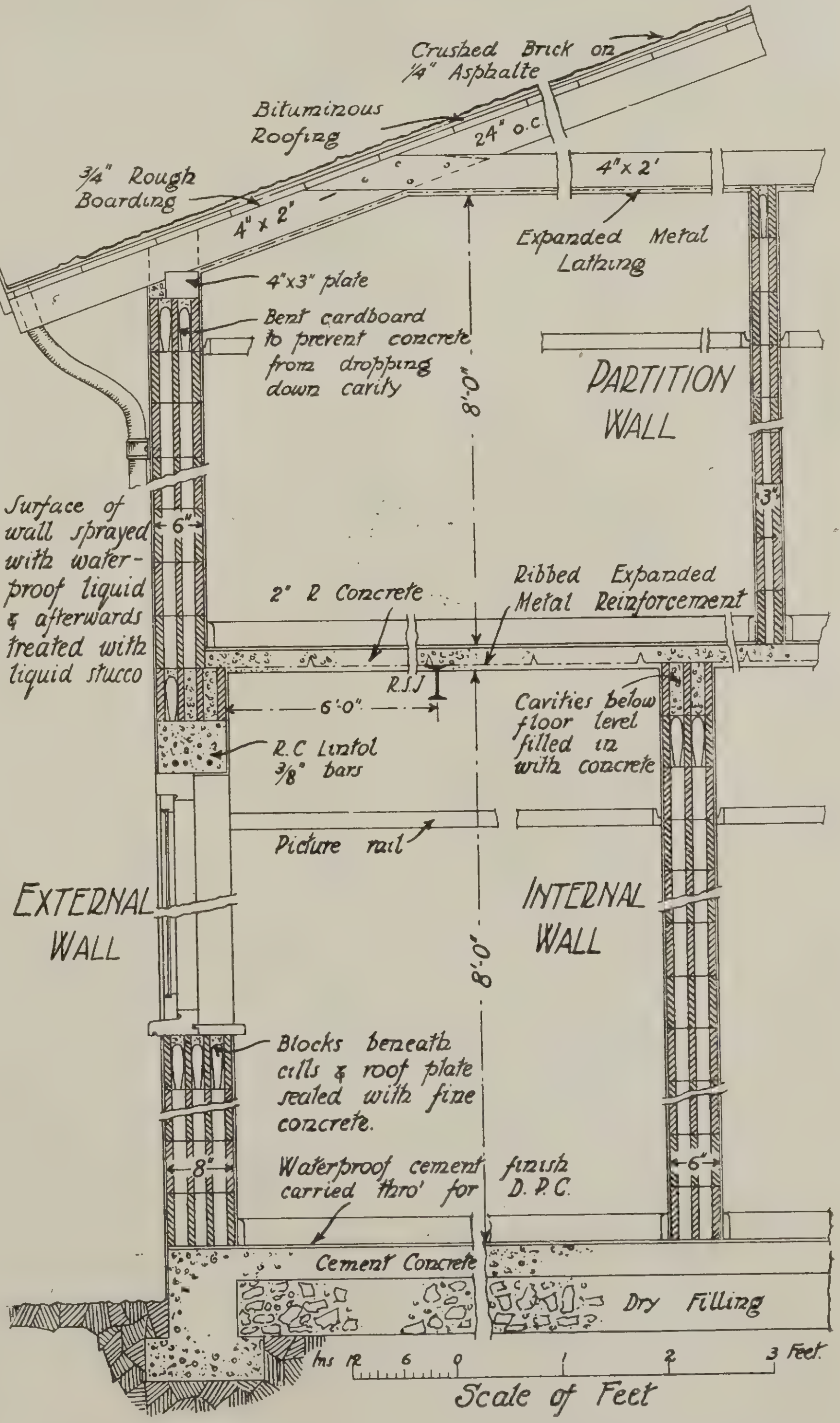
£600 Cottages and their Construction

Existing building conditions are such that only by exercising the greatest care in the selection of materials and methods of construction can the building owner hope to show a profit on his enterprise. The result has been that increased attention is being given to proprietary materials as a means by which building costs may be reduced.

While the need for economy applies to structures of all kinds, it is intensified in the case of dwellings for the working classes, where the rent represents the return on the outlay.

The present remarks, therefore, more particularly relate to buildings of the latter description, and as they set forth the manner in which a carter's cottage was erected complete and ready for occupation for just under £600, they will certainly be read with interest, especially by those concerned with rural housing.

This cottage, which conforms in all respects to the requirements of the Ministry of Health, has been built on an estate in Hampshire from plans prepared by Mr. L. A. F. Ireland, of London, whose notes on its construction have enabled our representative to furnish the following brief description of its chief points. These are clearly shown in the accompanying detail drawing.


Crushed Brick on ¼" Asphalte
Bituminous Roofing
24" o.c.
¾" Rough Boarding
4" x 2'
4"x 2'
Expanded Metal Lathing
4"x3" plate
Bent cardboard to prevent concrete from dropping down cavity
8'-0"
PARTITION WALL
3"
Surface of wall sprayed with waterproof liquid & afterwards treated with liquid stucco
6"
2" R Concrete
Ribbed Expanded Metal Reinforcement
R.S.J
6'-0"
R.C Lintol ⅜" bars
Cavities below floor level filled in with concrete
Picture rail
EXTERNAL WALL
INTERNAL WALL
8'-0"
Blocks beneath cills & roof plate sealed with fine concrete.
Waterproof cement finish carried thro' for D.P.C
8"
6"
Cement Concrete
Dry Filling
Ins 12 6 0 1 2 3 Feet
Scale of Feet

DETAIL SHOWING CONSTRUCTION OF £600 COTTAGE IN HAMPSHIRE.

L. A. F. IRELAND, ARCHITECT.

As regards accommodation, the building contains the following:

Ground Floor.

	ft. in.		ft. in.
Living-room	17 2	by	11 8
Scullery	11 8	by	9 6
Stair hall	9 6	by	5 0
Larder, coal store, and e.c.			

First Floor.

	ft. in.		ft. in.
Bedroom No. 1	12 0	by	10 0
Bedroom No. 2	11 9	by	10 6
Bedroom No. 3	11 8	by	6 9

The cottage is contained within a rectangle measuring 23 ft. by 18 ft. 6 in., and, together with the lean-to outbuildings, covers an area of 485 sq. ft. Both storeys are 8 ft. high, and there is a back entrance as well as a front.

The plan was naturally of primary importance, simplicity being the ruling idea. To secure this result every effort was made to prevent waste of space, and the chimney flues were gathered into a single stack.

Foundations and Ground Floor.—Ordinary concrete was used in the foundations, which in consequence presented no opportunity for effecting a saving. These were taken up to the dampcourse level, and a dry filling, covered with a 3½-in. concrete slab (1 to 6), forms the ground floor. A ½-in. layer of waterproof cement was then spread over the floor and foundations, thus providing an efficient dampcourse for the walls, and in addition rendering the floor itself impervious to moisture. This precaution was taken in case the dry filling should not prove effective. The layer of waterproof cement consisted of one part of cement and two of screened sand, mixed with a proprietary waterproofing liquid, to which water was added as required. This type of floor, we understand, cost much less than one constructed of timber would have done.

External Walls.—After much reflection it was decided to use 12 in. by 6 in. hollow concrete blocks for the outer walls, which are 8 in. thick up to the first floor and 6 in. thick to the roof. The thicker blocks contain three separate and continuous air cavities, while those used in the upper storey have two only. These patented blocks are easily and quickly built, and their use resulted in a considerable saving in labour and actual cost. It is to be noted that, as they can be laid with "dipped" joints, they require only about 25 per cent. of the mortar which would be necessary for ordinary bricks.

Internal Walls.—Hollow concrete blocks of similar make are also used for the internal walls, which are 6 in. thick on the ground floor, while the partitions in the upper storey are 3 in. thick.

Upper Floor.—This is a single continuous slab of concrete 2 in. thick, laid on a ribbed expanded metal reinforcement, and rests on the 2-in. ledge formed by the difference between the 8 in. and 6 in. blocks used for the external walls. At intervals of 5 ft. the floor slab is supported by steel joists 4 in. deep. As regards costs, this method of floor construction was found much cheaper than wood.

Floor Coverings.—The cement floors throughout are covered with a saturated wool-felt fabric, finished with a dark red enamel-like preparation which has the appearance of linoleum.

Roof.—This has a slope of 3½ in. to the foot, and consists of ordinary 4 in. by 2 in. rafters spaced at 2 ft. centres, covered with ¾-in. rough boarding. Over the latter, bituminous felt roofing is laid in the usual manner. The roof is finally covered with a ¼ in. thickness of hot asphalt compound, and while this is still soft crushed brick, about the size of hazel nuts, is shovelled on. This naturally sticks to the asphalt, and later any loose material is brushed off. The crushed brick was previously treated by being dipped in the waterproofing liquid already mentioned, in order to protect it from disintegration through the action of water and frost. This method of roof finish, which is largely employed in America, is far cheaper than slates or tiles.

Ceilings.—The ceilings of the lower rooms are cement plastered on the under side of the floor reinforcement, and those above are plastered to expanded metal lathing. Here, again, money was saved.

External Treatment of Walls.—The whole of the external surfaces of the walls are rendered impervious to moisture by a spraying of proprietary waterproofing liquid, and afterwards finished with a stippled coating of prepared liquid stucco, which in appearance somewhat resembles rough cast. This external wall finish resulted in a considerable saving.

Internal Treatment of Walls.—An excellent key is formed by the inner face of the hollow concrete wall blocks and partition slabs, which were covered with one coat of a proprietary plaster and afterwards distempered.

Joinery and Fittings.—The staircase, doors, windows, and internal fittings are of the usual type, and there was no saving on these items.

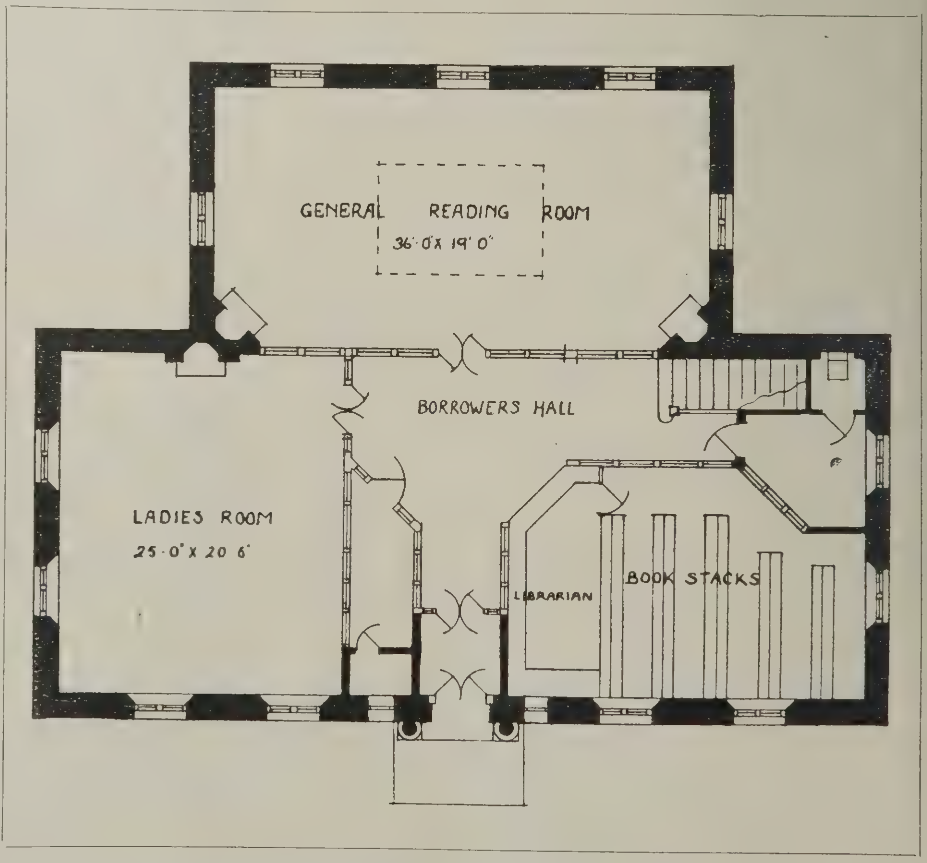
Generally.—Owing to the hollow walls, the cottage is warm in cold weather and free from the nuisance of condensation. It is found, too, that the concrete floor readily conducts the warmth from the lower storey to the rooms above. Structurally, the building mainly consists of practically incombustible materials, and these are of such a nature that rot or vermin are unlikely to become a source of trouble in the future.

Immunity from damp is provided for by the waterproofing of the walls, and this is no doubt further ensured by constructing the roof in one piece.

The Cost.—The following schedule gives the actual costs for each trade, and these, plus the builder's profit, make a total of £591 9s. After deducting the State subsidy of £230, the net cost of the cottage stands at £361 9s.

Summary of Costs.

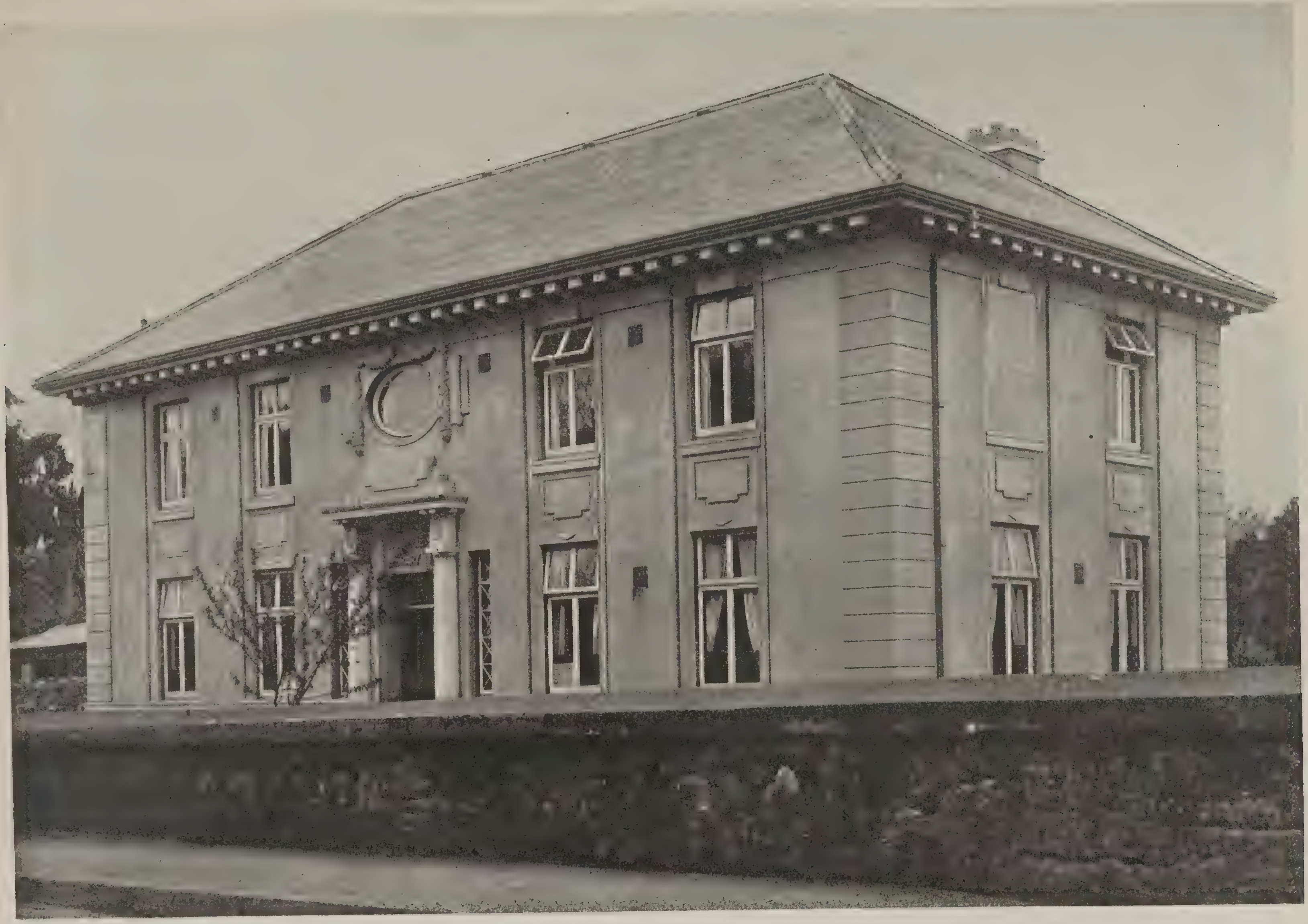
	£	s.	d.
Foundations and walling to dampcourse	24	0	0
Bricklayer, chimneys, and incidental work, including slurrying of walls and scaffolding	173	10	0
Floors (ground floor and first floor)	52	0	0
Carpenter, joiner, and ironmonger	150	0	0
Internal plastering	32	0	0
Fittings, including 2 cottage ranges, bath, copper, sink, 2 fireplaces, e.c., and plumbing	36	0	0
Painter	19	10	0
Roof covering	26	9	0
Waterproofing preparation and liquid stucco	18	0	0
Porch and step	6	0	0
Total cost of materials and labour	£537	9	0
Add contractor's profit	54	0	0
Actual cost of cottage	£591	9	0
Deduct Government subsidy	230	0	0
Net cost of cottage	£361	9	0



GROUND-FLOOR PLAN OF CARNEGIE FREE LIBRARY, DUNDRUM, CO. DUBLIN.

Current Architecture. 87.—The Carnegie Free Library, Dundrum, Co. Dublin

R. M. Butler, F.R.I.B.A., Architect



This little public library has been erected on a site adjoining the village of Dundrum, Co. Dublin. The grant was a very limited one, and the problem involved meeting the requirements of the local authorities, who particularly desired to include a lecture and concert hall as large as possible, and at the same time complying with the standard regulations laid down by Mr. Andrew Carnegie when making grants for libraries. The ground floor has been planned to satisfy Mr. Carnegie's views, particularly in regard to effective supervision by the librarian, who is placed centrally, and the whole of the upper storey is devoted to the lecture hall. Architecturally the building is a very simple adaptation of the Neo-Grec, the exterior being finished in smooth cement stucco. Mr. George Bower, of Ballybrack, was the contractor.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Correspondence

The Architects' Benevolent Society

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—We desire to thank you for pubshing in your JOURNAL the list of contriutors who have so generously responded the letter of appeal on behalf of the rchitects' Benevolent Society which we ddressed to the members of our respecve societies last December. Our object ien was to add a thousand annual subcribers to our list—which had seriously iminished during the late war, while the laims on the Society had increased. Our ppeal has resulted up to date in just over alf this number—i.e., 501 new subscripions, and in addition 121 donations.

We desire to thank all those who have ontributed, not only in England, but in ll parts of the world—India, China, Ausralia, Canada, New Zealand, and South frica—for their generous response to our etter; and, at the same time, to express ur hope that the total number at which ve aimed will yet be reached. We are rompted by the great need of the Society nd its usefulness to the profession to nake a further appeal to architects who re not yet subscribers to put this, a urely professional organisation, at the nead of their list of charitable subscriptions. There is much more we can do, and ought to do, if sufficient funds are forthcoming, for those of our professional brethren who have fallen by the way, or of their dependents who have, as is unfortunately so often the case, been left insufficiently or totally unprovided for to face the struggle of life and poverty.

JOHN W. SIMPSON,
President of the Royal Institute of British Architects, President of the Architects' Benevolent Society.
CHARLES T. RUTHEN,
President of the Society of Architects.
G. GILBERT SCOTT,
President of the Architectural Association.

Registration

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am sure your readers are grateful to you for your recent article on the above subject, but is your information quite up-to-date? You refer to the great power of a combination of three professions, the civil engineers, the surveyors, and the architects, all applying to Parliament at the same time for registration; but rumour states that the Civil Engineers and the Surveyors' Institution have dropped the idea, and are not promoting Registration Bills. Can you tell me if that is so, and why?

I recently heard two architects discussing registration, they were both in favour of it, one of them maintained the Bill should be drafted so as to prevent any man except an architect acting as an architect; but the other man said all he wanted was an Act to prevent a man calling himself an architect unless he were qualified. Man No. 1 stated this would be practically useless if we had it, as it would not prevent auctioneers and house agents doing architectural work, which is the burning desire in the provinces. The argument was heated and lengthy. Please can you tell me what you mean by registration, and what form of registration we should work for?

THOMAS.

[See article on p. 640.—EDS. A.J.]

Advertisers and the Architect

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As in the old days before the war, manufacturers in the building trade are all advertising freely, and my morning post brings me many advertisements and booklets of building wares. But to my mind most of these advertisers are missing the mark by not giving prices. I know it is said the reason for this is the uncertainty of estimating and pricing, and that prices are for ever fluctuating. But to the average architect, especially in these days, the question of the price of an article is as important as that of its quality or novelty. The formula, "prices on application," which one finds on 80 per cent. of the advertisements and catalogues issued may appear to the advertiser the right thing to do, but the absence of price means an absence of half the appeal the advertisement would otherwise possess to an architect.

May I suggest to advertisers that they would be well advised to issue advertisements at regular intervals, and date them, and give the price at date of issue, at the same time stating the price is open to fluctuation? This would give the architect some guide in comparing prices of different firms and articles when making his designs and writing his specifications, and many advertisements which now leave him cold owing to his ignorance of the cost of the article would then attract his notice.

I should be interested to know what other architects think on this point and how it strikes the advertisers.

A LONDON ARCHITECT.

Fume Chamber and H_2S Compartment

In the larger and more fully-equipped laboratories external fume chambers are frequently provided, being so planned in relation to the main building as to be surrounded by the maximum amount of fresh air. Flat roofs may often be utilised for this purpose, the chamber being connected with the laboratory in the main building by means of a balcony. Fume chambers of this description are usually fitted with extract flues, wastes, and gas taps, as is customary when the fume cupboards are isolated fittings in the laboratory itself.

In the illustration (see pp. 652, 653) a special compartment adjoins the fume chamber, and is used for experiments involving the manufacture of sulphuretted hydrogen (H_2S). Four separate fume cupboards are provided, each containing an extract flue and water standards, and a sink with a special waste for the removal of the residue, after the gas has been extracted, is fitted on the balcony.

Demonstrators' Tables.

Demonstrators' tables are similar to ordinary single chemical working benches (to be illustrated in a future issue), with the difference that for purposes of supervision they are usually placed on a platform raised from 9 in. to 12 in. from the general floor level.

Cupboards fitted with shelves and drawers of various depths, and with wooden divisions for the more efficient accommodation of chemical apparatus, are provided for the use of the demonstrator. The table is also fitted with a sink, 18 in. by 10 in. by 5 in., and water standard, gas taps, and a down-draught extract flue. The top of the table is of teak 2 in. thick, and all cupboard and drawer handles are of wood.

New Bank for Liverpool

The new building at Liverpool for the National Bank, Ltd., illustrated on page 641, is to be erected on the site of the existing "Derby Buildings." The position is a prominent one, at the junction of James Street and Fenwick Street, fronting the open space of Derby Square, and commanding the long vista of Lord Street. A site such as this demands an imposing building of a monumental character. The architects, T. Arnold Ashworth and Son, having this end in view, have designed the building in the Greek style, which, demanding such grace of line and refinement of ornament, makes it possible to retain the scale of the structure without any coarsening of detail, and so achieve a result both dignified and restrained.

The building will comprise a basement and ground floor, both of which will be utilised by the bank, and above there will be seven floors of offices. An eighth floor will contain the sanitary accommodation, power and gear houses, each floor being served by electric elevators. The structure will be "steel-framed," with hollow concrete fire-resisting floors. The main elevations and the attic storey on each elevation will be of Portland stone. The entire building will be centrally heated by means of low-pressure hot water, the boiler-house for which is placed in the basement. In addition to radiators, provision will be made for either coal or gas fires at the option of tenants, and a special apparatus is to be installed for the extraction of all smoke and fumes. The vitiated air will be drawn through specially-designed ducts connected up to extractor fans in the roof. In addition to this, natural ventilation will be provided for by vertical pivot-hung opening casements and air inlets.

"The Architectural Review": A Striking Number

The next number of the "Architectural Review" promises to be one of the best yet issued, opening as it does with a colour plate and half-tone plates of some of the most characteristic work of Mr. George Clausen, R.A., and containing other illustrations by William Walcot and Francis Dodd. Mr. W. G. Newton contributes a leisurely literary article on "Montepulciano, a Tuscan Hill-Town," which is accompanied by water-colour sketches by the author.

Another interesting article is one on the "Interior of a Racing Yacht," illustrated with admirable drawings and photographs.

Ex-Service Men for Housing Schemes

A CIRCULAR has been issued by the Minister of Health calling the attention of all housing authorities to the scheme, adopted at the request of the Government by the National Federation of Building Trades Employers, for the employment of ex-Service men to be trained in the building industry. The Government have undertaken to adopt the principles of the scheme in the case of building operations with which they are concerned, and they are confident of the co-operation in every possible way of local authorities. The objects of the scheme, details of which are published below, are to provide employment and training for ex-Service men in a skilled craft, and to accelerate the production of houses:—

(1) *Object and Scope of Scheme.*

The responsibility of the Government in the scheme is confined to ex-Service men. In England and Wales the National Federation of Building Trades Employers have accepted general responsibility to the Government for bringing about the absorption into the industry of the desired numbers of ex-Service men and for their adequate training.

In the application of the scheme to Scotland the Scottish National Building Trades Federation (Employers), the Scottish Building Contractors' Association, and other employers' organisations participating have accepted a similar particisibility, and will arrange for the proper machinery to be set up in accordance with the scheme laid down in this memorandum.

The scheme is intended to apply mainly to young ex-Service men, say under thirty years of age, who have been for some time out of employment, and have no regular occupation to which they can return when the present industrial depression is over. In addition, it is to apply to any ex-Service man now employed in the industry as a builder's labourer.

It is designed to provide training in the crafts of the industry which require augmentation. For the time being the deficiency is confined mainly to bricklayers, plasterers, slaters, and tilers. The total number of men to be admitted under the scheme is 50,000.

(2) *Selection of Candidates.*

The question whether any particular man is eligible under the scheme will be determined by the Ministry of Labour acting through the local employment exchange. If it is found that the unions do not co-operate in the formation of a joint committee, the respective employers' organisations will arrange for their local associations . . . . to appoint employers' committees in each district (hereinafter referred to as the district committee), which will be responsible for the selection of men for training under the scheme.

The district committee will deal with applications for ex-Service men by individual employers, will decide in which branch of the trade a candidate can be most suitably trained, and will allocate the accepted candidates among all employers of building trade labour in the district. Employment exchanges will forward, on request by the district committee, particulars of unemployed ex-Service applicants eligible under the scheme for selection by the district committee. Candidates selected by the district committee as suitable, including ex-Service men now engaged as builders' labourers, provided that they are eligible, will be registered under the scheme at the employment exchange of the district.

To facilitate registration of selected candidates, all candidates will render to the exchange an application form (which will be a standard form obtainable at the exchange) giving particulars of service in H.M. Forces and civilian experience. This form will require certification by the exchange as to eligibility, and completion by the secretary of the district committee as to the approval and allocation of the candidate.

(3) *Agreement of Service.*

An agreement of service valid for two years will be entered into between the employer and the accepted candidate. The agreement will be subject to a break at the expiration of a probationary period of three months and to termination thereafter on the ground that either party is not observing its provisions. In addition, to meet the needs of the employer who may not be able to provide continuous work for two years, provision will be made in the agreement for its assignment from one employer to another, with the consent of the workman in writing, which consent shall not be unreasonably withheld. The responsibility for assigning will rest upon the employer who is a party to the agreement, but the district committee will exercise a general supervision in this matter.

The agreement shall provide that at any time during its currency the workman shall have the right to apply to his employer for a certificate of proficiency entitling him on the ground of his qualifications to a higher percentage of the standard district rate of wages than that laid down in Section (4), "*Rates of Pay*" hereunder. Subject to the general responsibility of the aforesaid employers' organisations, the district committees will supervise generally the execution of the agreements of service and will use their best endeavours to settle complaints by either party of non-compliance with the provisions of the agreement. All such agreements and assignments thereof will require the usual stamp. The agreement will be made a standard form, and copies will be obtainable at the employment exchanges.

The agreement on execution and any subsequent assignment and any proficiency certificate on issue will be registered at the employment exchange, and a copy will be furnished by the employer to the exchange for record. The employer will notify the exchange of the date when the workman commences employment under the agreement of service and any subsequent assignment.

(4) *Rates of Pay.*

Ex-Service men accepted under the scheme will be paid by the employers at the following rates:—

(*a*) First six months, 50 per cent. of the standard district rate for skilled men, plus 10s. per week.

(*b*) Next six months, 65 per cent. of the standard district rate for skilled men, plus 5s. per week.

(*c*) Next six months, 80 per cent. of the standard district rate for skilled men.

(*d*) Next six months, 90 per cent. of the standard district rate for skilled men, and thereafter 100 per cent.

Towards the payments made by the employer the Government will contribute in respect of each man accepted under the scheme:—

(*a*) For the first twenty-six weeks, 10s. per week.

(*b*) For the second twenty-six weeks, 5s. per week.

provided that

(1) the workman attends regularly for duty as required.

(2) the State contribution will be paid for a full week even though the employer by whom the workman is employed may in fact be working short time, but will not be paid for any week during which a workman does not work at all.

(3) if during the first twelve months the workman receives from his employer a rate of more than 65 per cent. of the standard district rate the State contribution shall cease from date of receipt of the increased rate.

(5) *Claims for State Contribution.*

The State contribution will begin from the date of the commencement of employment under the agreement of service. The contribution will be paid by way of refund to the employer on claim forms rendered quarterly or monthly at the option of the employer to the finance department of the Ministry of Labour. The claim form will be made a standard form and copies will be obtainable at the exchanges. The form will show signed receipts by the workman for each week's payment and will be certified by the employer as correct.

Proficiency certificates issued by employers to workmen entitling them to receive a proportion greater than 65 per cent. of the standard district rate for skilled men, exclusive of the amount of the State contribution, within the first twelve months of his training, will be signed by both parties, and forwarded by the employer to the exchange for registration. The form will be a standard form, and copies will be obtainable at the exchange.

It will be within the discretion of the Minister to withhold the State contribution in any case in which the conditions of the scheme are in his opinion not being complied with. The Minister reserves the right to call upon any employer to produce documentary evidence in support of his claim to the State contribution.

(6) *Administration and Records.*

The employment exchanges will provide local administrative machinery for the supply of men and registration of agreements, and subject to the general responsibility of the employers' organisations the district committees will, in conjunction with the Government, exercise a supervision over the execution of the agreements of service entered into between employers and workmen in their respective areas. The employers' organisations will arrange for regular records to be kept of the progress of the scheme, including returns of the number of men taken on in each district, and will forward reports from time to time to the Minister.

Unification and Registration

As briefly reported in our last issue, the following resolutions were passed at the meeting held at the R.I.B.A. on Thursday, May 12, of the Committee on Unification and Registration:

1. That the principle of Scheme A—namely, the bringing of all the architects of the United Kingdom into membership of the R.I.B.A.—be adopted as the basis for unification.

2. That the matter be referred to the sub-committee to consider details and report to the Main Committee.

3. That the committee recommend the Royal Institute to draft such alterations to its Charter and by-laws as may be necessary to comply with the principle of Scheme A, adopted this day by the Unification and Registration Committee, and to confer with the Council of the Society of Architects as to conditions of membership.

4. That six additional representatives of the allied societies be selected by the chairman and vice-chairman from the members of the Main Committee to serve upon the sub-committee.

Scheme A submits that the following preliminary steps should be taken:

(a) That the Council of the Royal Institute of British Architects appoint a "Board of Incorporation" with salaried assistance. This board to consist of the members of the present Committee on Unification and Registration, together with such other members as they may elect, provided that the total number of members of the board be not more than one hundred.

(b) That it be the duty of the board so appointed to prepare as soon as possible and send to all architectural societies and organisations, and (so far as may be reasonably possible) to all architects not belonging to any architectural society or organisation, a memorandum inviting those qualified (not being already members) to become members of the Royal Institute of British Architects before the expiry of twelve months from the date of issue. This memorandum shall set forth the proposals of the sub-committee (see below) (with such amendments thereto as the board may direct) and the objects to be attained by unification. It shall be accompanied by a form for signature accepting the said invitation.

(c) That it be also the duty of the board to prepare as soon as possible and circulate (in like manner to the last) a supplementary memorandum showing the alterations proposed by the Royal Institute of British Architects to their present Charter and by-laws in order to give effect to the proposals above mentioned.

(d) That the Council of the Royal Institute take the necessary steps to obtain the consent of the Privy Council to the aforesaid alterations to the Charter and by-laws without delay.

The sub-committee submit the following outline of proposals for unification on the basis of absorption:

(a) That Scheme A be termed Incorporation of the Architectural Profession.

(b) That all architects who are qualified for membership shall in future be incorporated in one organisation.

(c) That this organisation shall be the Royal Institute of British Architects, which shall consist, as at present, of classes of professional subscribing and voting members, classes of honorary members, and of students.

(d) That all architects qualified for membership shall be entitled to be admitted forthwith to the class appropriate to their qualifications (of which qualifications the Board of Incorporation shall be the sole judge) and that the names of all professional subscribing and voting members shall be forthwith inscribed upon a register.

(e) That all architects shall be deemed to be qualified for membership who—

(1) Have passed the qualifying examination of the Royal Institute.

(2) Can satisfy the Board of Incorporation that they are and have been for five years in bona fide practice as architects, or are and have been for a like period bona fide assistant architects.

(3) Are students who have passed or been exempted from the Intermediate examination of the Royal Institute of British Architects, or other examination recognised as equivalent thereto by the Board of Incorporation.

(f) The Royal Institute shall have power to govern the professional practice, education, examination, registration, and remuneration of all architects; to regulate the conduct of architectural competitions; to undertake the benevolent assistance and the defence of members of the profession; and to control the relations of the profession with other branches of the building industry, government departments, and public bodies.

(g) That the Royal Institute of British Architects shall, after giving twelve months' notice of their intention to do so (during which period all qualified architects shall be invited to become members), present to Parliament a Registration Bill prohibiting persons whose names are not upon the register from practising under the style of "architect," or under any style containing the words "architect" or "architectural," after a date to be determined; and shall prosecute the Bill with vigour until it becomes an Act of Parliament.

(h) Save as they may be affected by the foregoing proposals the constitution of existing architectural societies or organisations shall remain as heretofore.

Competition News

Canadian Battlefields Memorial.

Below we publish the list of winning competitors in the first round of the Canadian Battlefields Memorial Competition. M. Paul Cret, Mr. Frank Darling, and Professor C. H. Reilly were the assessors, while Professor Percy Nobbs acted as advisory architect to the Canadian Battlefields Commission in drawing up the original conditions.

The selected architects and sculptors (who will take part in the final round) are as follows:—

Walter S. Allward, Toronto; Cecil Burgess, Ottawa; F. Chapman Clemesher, Regina, Charles S. Cobb, Toronto; Paul Domville and Lester B. Husband, Hamilton (jointly), Wilford A. and Clarence A. Gagnon, Montreal (jointly), G. W. Hill, Montreal; A. W. King, Montreal; F. Lessore, Toronto; R. T. Perry, Vancouver; Kenneth G. Rea, Montreal; S. D. Ritchie, Montreal; Duke W. Rowat, Toronto; Ramsay Traquair, Montreal; George E. Tremblay, Iberville, Quebec; J. Emile Vanier, Montreal; P. R. Wilson, Montreal.

The London Group

Whether one admits it readily or not, talent somehow does cling to the London Group. The fourteenth exhibition, now opened at the Mansard Gallery, proves this clearly enough.

At least two pictures are probably more than excellent: I refer to Meninski's "Stella" (33) and Therese Lessere's "Jazz" (45), although D. Grant's "Chalk Farm" (9) and Seabrooke's "Garden at Fulham" (51) run them pretty close. "Stella" is one of those extraordinary efforts which cannot be ignored. It may not satisfy your taste, but it just holds you taut with its fierce honesty and efficiency. Two painters to show a fine ease for expressing landscape are O'R. Dickey, whose Irish scenes are the outcome of genuine emotion faithfully captured, and Seabrooke. Seabrooke, like D. Grant, is a painter to watch: obviously in love with his "métier" and revelling in its intricacies. You should not miss "The Lodger," by R. Lee (66). It is not great painting, but its humour and sense of fractious shapes lifts it above the mere piquancy of a deft joke.

Finally, Ratcliffe's "Fence" (87), and K. Bayne's "Boats" (93), although poles asunder in technique, do approximate in their capacity to impart even into your most sluggish or remotest artistic apprehension the delightful shock of a thing beautifully felt and not less beautifully appraised.

G. HOLT.

The Heresies of a Painter

Mr. Roger E. Fry gave the third of the Thursday afternoon lectures before the R.I.B.A. last week. Mr. C. J. Holmes, the curator of the National Gallery, took the chair. At the outset Mr. Fry deplored the fact that all was not well with British architecture, and that our architects had missed the great opportunities which had been afforded to them by invention and scientific knowledge. We had substituted for the art of architecture the art of dressing buildings according to the fashion, with the result that they became dowdy in a few years, and when dowdy they were done for. This phenomenon was more or less world-wide.

There were two kinds of beauty—the natural and the æsthetic. We had so arranged it that neither of them appeared in our buildings. There had hardly ever been any æsthetic architecture in England, and even less sculpture. Our architecture did not express plastic ideas, but historic-social ideas, and was in fact founded on social snobbery.

Modern conditions and modern science had put into the hands of architects the greatest opportunity in the history of the world, and they had missed it completely. To a great extent, however, it was not their fault. Their art was subject to peculiar limitations in the matter of its ultimate expression. For example, the architect frequently must come to terms with a committee, or, worse, with a Government Department.

Mr. Fry described Waterloo Station as "that miserable and interminable series of glass and iron hutches, built, no doubt, on the 'cosy corner' principle." The "cosy corner," which we, alas! had invented, was appearing in one form or another in most of our public buildings. English architecture was distinguished by lack of a sense of scale. It had no great gesture. It was meticulous, timid, and cringing. Of Portland Place the lecturer said it was the only roadway in London that gave one "space to spread the wings of civic consciousness."

For the much abused Charing Cross railway bridge also he had praise, saying that if it had not æsthetic beauty it had the beauty of bare cylinders supporting a rectangular block, and pleased him more than most of London's bridges. In London, indeed, most of the buildings were only tolerable when one had learned not to look at them.

He wished that architects could find it possible to unite in building up a body of professional opinion that would enable them to impose more of their own will on those with whom they must needs collaborate in the expression of their art. Concluding, he said that real style in architecture, as in sculpture, was the perfect adaptation of the means of expression to an idea. The vices of modern British architecture were no novelty, and had always been inherent in the architecture of our country.

Fuel Oil and the Future

In view of the interest which is being shown in oil as a fuel, we have approached Messrs. the Anglo-American Oil Company, Ltd., with a view to obtaining some authoritative information on the present application and future possibilities of liquid fuel. There can be no doubt that the next few years will witness an enormous development in the use of fuel oil for the production of power of every kind. The tendency had begun even before the war, and although the war effectually prevented any such development, as far as commercial or domestic uses were concerned, yet it had the effect of emphasising in a practical way the many advantages and economies consequent upon its use.

We may look forward to seeing fuel oil used extensively in industry for the raising of steam, the heating of metal furnaces, the firing of locomotives, and last, but not least, for the bunkering of the largest ocean liners and the hundreds of smaller cargo ships that ply the seas. Already the shipping companies are seriously considering the question of conversion to oil-firing, and many have already passed plans for the necessary alteration to several of their existing fleet, whilst in the case of the many new vessels under construction, oil-firing is the order of the day. On land the portent of the future is to be seen in the fact that many of the largest works have already adopted oil as a fuel for use under their boilers, whilst hotels and stores, attracted by the great convenience and cleanliness of fuel oil, are following suit.

In burning liquid fuel, special arrangements are rendered necessary by its physical condition. A special form of burner is necessary, and there are a number of excellent ones already on the market, by means of which the oil can be broken up as completely as possible, and the fine spray thus formed, intimately mixed with the necessary air, is injected into the furnace, where it burns with great rapidity, producing no smoke and leaving no ash. The more completely the breaking up of the oil is accomplished the better are the results obtained, and a great deal of ingenuity has been expended from time to time on the apparatus necessary to atomise the oil satisfactorily. At the present time there are available several excellent oil burners in which the disintegration is so complete that the oil enters the furnace in the form of a fine mist, this being the ideal condition to secure the best results.

The various systems of oil-burners employed may be classified under three heads: (1) Atomisation by compressed air, (2) atomisation by steam under pressure, (3) atomisation by purely mechanical means. Generally speaking, systems 1 and 2 are merely modifications of each other, and most burners designed to use steam will work equally well with air. The oil itself is not under any pressure except that due to the height of the feed tank above the burner; the steam or air being forced through the burner under a pressure varying in different types from as low as 4 lb. up to 50 lb. per sq. in. When steam is used this obtained from the boiler itself, starting up being accomplished by simple auxiliary means. When air is used a compressor is required. In addition to the necessary piping, a small feed tank must be provided, and may advantageously be supplied with coils, so that the oil can be heated by waste steam. System No. 3, which is economical in running, has been developed in recent years as a result of much experimental work carried out for the British and American navies. It probably represents to-day the high-water mark of efficiency in oil burning, and is an achievement in engineering skill applied to a specific purpose.

In the pressure system of oil burning the oil itself is delivered to the burner under a pressure of from 40 lb. (in low pressure installations) up to 150 lb. and 200 lb. per sq. in., and at a temperature of from 200 deg.F. up to 300 deg.F. or more. The internal mechanical arrangement of the burners is such that by the time the oil leaves the burner it is so completely atomised that the fine spray or mist is almost invisible. The necessary air for the combustion of the oil is supplied partly by induction through the burner and partly by induced or forced draught as when using coal. The pressure system is initially more costly to instal owing to the necessity of providing pumps, heaters, and filters sufficiently stoutly made to withstand the working pressures, but its advocates claim that so economical is the system in operation that the extra cost is quickly recovered. It is generally reckoned that the power required to operate the system is equal to a little more than 1 per cent. of the steam produced.

An installation for oil burning can easily be arranged along the wall of the boiler-house, or fitted into an oil-tight tray and placed in any convenient position. No alteration is necessary in the design of the boiler-house itself. A storage tank should be provided as near as possible to the boiler-house, from which the oil can be pumped to the feed tank. The capacity of the storage tank should be equal to at least two or three weeks' supply, and should be provided with steam coils for heating the oil when necessary in the cold weather. Any oil-burning installation can easily be fitted to existing boilers with very little alteration, in many cases with none at all. Further, they can be so arranged that the transfer from oil to coal, or vice versa, can be accomplished in a very short time.

Evidently, then, the use of oil instead of coal requires no special design in building and, in the case of existing works, no structural alterations are necessary. All that is required is merely the provision of the apparatus necessary for actually burning the oil, and a tank for storing a supply, though possibly slight alterations to the furnace of the boiler (the provision of a baffle for spreading the flame and a layer of broken brick on the fire bars) may be required, and then fuel oil can be used with all its many advantages. Oil fuel is cleanly in use, raising no dust, and giving no smoke. The boiler-house itself, as well as its atmosphere, remains clear and uncontaminated, and with any good oil burning installation there should be no smell. One of the greatest advantages of liquid fuel is the saving in labour costs. There being no stoking or clinkering, one man can look after a battery of boiler and wear good clothes at the same time. These advantages become more apparent the larger the works and the more boilers there are in use, but there are many cases where even a small vertical boiler can be fired by oil with every advantage.

The future is likely also to witness, we understand, the application of oil burning to the domestic kitchener. Lieut.-Colonel Macdonald has been concentrating his efforts on an oil burner of his own invention. This burner was first used very successfully in Egypt during the war for cooking food for the soldiers. It is called the "Scarab," after the Egyptian beetle. It can be worked either by steam or compressed air, and has been applied very successfully both to boilers and to cooking ranges of the ordinary kitchener type. Certainly the future applications of oil fuel are likely to be very diverse, and the era that is now opening will witness something of a revolution in fuel for every purpose. An interesting development which belongs, perhaps, to the more distant future, though signs are not wanting of a tendency in that direction even now, is the development of the Diesel engine, especially for marine propulsion. Owing to the extremely economical consumption of oil for the power produced, coupled with the small amount of space occupied, a considerable development of Diesel engines for power purposes may be anticipated.

Law Report

Contractor's Claim

Hampton and Sons v. Monroe.

May 13. Official Referees' Court.
Before Mr. Ed. Pollock.

This action, in which the plaintiffs, as decorators, contractors, and electrical engineers, claimed from Mr. and Mrs. Monroe, of Chessington Place, near Sutton, for decorations, structural alterations, and electrically fitting up of their house at that address, was brought to a close on Friday, May 13, after several adjournments, the hearing having been commenced on April 18.

After over a week's interval the hearing was resumed on May 12, when Mr. Percy Morrell, cost clerk to the plaintiffs, gave evidence as to the increased wages account owing to the increased scale under which the firm had had to pay.

A discussion took place in regard to the evidence of Mrs. Monroe, who, in consequence of ill-health, was unable to attend, and the Referee decided to go to Surbiton to take her evidence.

The Referee, as a result, gave judgment for the plaintiffs for £4,800, with costs against Mr. Monroe and his wife, finding that they were jointly liable. He also gave judgment for plaintiffs on a counterclaim set up by them, with costs.

Trade and Craft

Bell's United Asbestos Company, Ltd.

Mr. J. Alfred Fisher, chairman and joint managing director, presiding at the thirty-third ordinary general meeting of shareholders of Messrs. Bell's United Asbestos Company, Ltd., said that, taking the year as a whole, the company had had a record turnover, and a record profit, which would have been most gratifying but for the serious falling off in both the home and export trade which had since taken place, although home sales of "Poilite" had so far been fairly maintained. The condition of the company's export trade was rendered less satisfactory than it might otherwise have been by the high protective tariffs imposted by most foreign countries, and in a less degree by some of our Colonies, in which very remunerative prices were obtained by local manufacturers.

The most striking case, however, was that of America, where an attempt was now being made to impose an entirely prohibitive tariff in place of the existing import duty of 20 per cent. *ad valorem.* If these proposals were adopted the company would be justified in seriously considering the question of starting a factory in the United States where they have important connections. It was obvious that the present *ad valorem* duty of 20 per cent. should be ample to cover any increased wages cost in the States, and if the company were so much ahead of their American friends in the art of spinning asbestos fibre as the statements to their Customs authorities imply, then the company should have a good prospect of success, and he proposed sailing for New York in a few days to go into these questions.

The completion of the buildings and machinery for the manufacture of the new "Hurcan" building slabs took longer than was anticipated, and this department was only brought into operation a few weeks ago. Sales were being effected, and appreciation had been expressed by users of the high quality and appearance of the new products, the price of which could not be too strongly emphasised. The company hoped, therefore, to do a satisfactory business in "Hurcan" building slabs, although (as they found when they commenced manufacturing "Poilite") it may take some time to get the new industry established on a profitable basis. The company were doing their best to comply with the wishes of many of their customers by reducing prices wherever they found it possible to do so without detracting from the high standard of their manufactures, but unfortunately the cost of all grades of raw materials used in the asbestos trade was still very high.

With regard to labour he was pleased to say that the good relations to which he had alluded on previous occasions between their own workpeople and factory managers continue, and that when recently their attention was drawn to the difficulties with which the company were confronted their works committee entered into full and frank discussions respecting the situation. They realised the gravity of the position, and adopted the wise course of co-operating to economise.

He moved: "That the report of the directors and of the auditors and the financial statements submitted to this meeting be and the same are hereby approved, adopted, and confirmed, and that in addition to the dividend at the rate of 6 per cent. per annum paid upon the Preference shares, a dividend at the rate of 1s. 6d. per share be paid out of the profits on the Ordinary shares, making, with the interim dividend already paid to June 30 last, a total dividend at the rate of 12½ per cent. for the year."

Mr. A. J. Burness seconded the resolution, which was carried unanimously.

The two retiring directors, Mr. H. J. Enthoven and Mr. Kenneth Lightfoot, were re-elected, and Messrs. Cooper Brothers and Co. were re-appointed auditors.

Pivotal Points in Photography.

Experts will find plenty to interest them in this little publication. For those who are thinking of taking up photography, or for those who are meeting with difficulties, it is a little gold mine of sound information. The pivotal points of photography are described as exposure, development, printing, and a chapter is devoted to each; but in a fourth and concluding chapter such points as intensification, reduction, and toning in sepia, blue, green, etc., are dealt with. In every case, whether the point is a pivotal one or not, there is a pleasing and unusual certainty and directness about the instructions.

Because it is issued by Burroughs Wellcome and Co., who supply the chemicals essential for the methods indicated, the booklet is obtainable gratis. The cover, in green facsimile photogravure, shows Sir Ernest Shackleton's ship Endurance firmly fixed in the ice of the South Polar regions. It is an example of negative and print developed with "Rytol," and toned with "Tabloid" Green Toner. Any photographer mentioning this journal and sending a postcard to Burroughs Wellcome and Co., Snow Hill Buildings, London, E.C.1., can obtain a copy of "Pivotal Points" gratis and post free.

Modern Road Construction.

In an extremely interesting booklet, issued under the title of "Modern Road Construction: The Problem and Its Solution," Messrs. Johnson's Reinforced Concrete Engineering Company, of Lever-street, Manchester, give a large amount of useful information concerning their steel wire lattice road reinforcement. The firm claim that this reinforcement effects considerable economies in first cost, labour in fixing, strength, and practical utility, and make useful suggestions on the method of laying, and on the thickness of concrete and the pattern of lattice which should be used for various classes of road construction. The illustrations given show the company's works, and roads upon which their steel wire lattice road reinforcement has been laid at Shoreditch, Hackney, Paddington, and Bury.

Housing in China

Chu Chi Chien, the special envoy now in London on behalf of the President of the Chinese Republic, who has visited the Ministry of Health, was specially interested in the plans and photographs of the housing in this country which were on exhibition. As he was responsible for the rebuilding of Peking, he has some experience of the housing problem. In the "treaty" cities of China modern structures of brick, steel, and concrete are being built, but in the native districts housing is in the primitive stage that it has been for centuries past.

Latest List of New Inventions

Latest Patent Applications.

13032.—Bennett, M. B.—Building-blocks and walls formed therewith. May 7.

12634.—Bornstein, S.—Reinforced concrete floors and roofs. May 3.

12971.—McArtney, J.—Method of facing blocks, slabs, coverings, etc. May 6.

12832.—Norman, G.—Concrete buildings. May 5.

Specifications Published.

134230.—Freid, A.—Method of producing building materials and artificial stones.

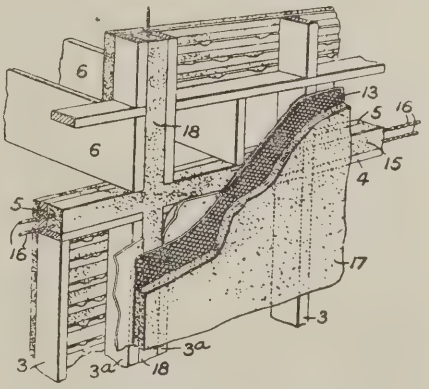
134538.—Dyring, I. T.—Building material.

162318.—Bayer, E.C.—Method for manufacturing stone-like materials of foam-like structure.

162462.—Trobridge, E. G.—Buildings.

Abstract Published.

160226.—Walls.—Ballinger, W. F., and Perot, E. G., 329 South Broad-street, Philadelphia, Pennsylvania, U.S.A.—A permanent self-supporting wooden frame combined with vertical studs and outer walls of concrete, is formed with vertical wooden studs to sustain the outer walls, some of the studs being arranged near together in pairs to form moulds for shaping the concrete studs. The frame comprises studs 3, 3a, ledger boards 5, and bottoms 4 nailed to the tops of the studs. The spaces between the pairs of studs 3a and those formed by the boards 4, 5 are filled with concrete forming studs 18 and stringers or sills 15. The space between the studs at the corners also is filled with concrete. Building paper is nailed over the panels and the whole of the exterior is covered with expanded metal 13. This again is covered with concrete 17 which passes through the meshes and unites with the concrete studs and sills. Wired steel rods 16 may be used to reinforce the studs and sills. The inner face of the frame is covered with laths and plaster. The floor joists 6 and rafters rest upon the ledger boards and concrete sills.



The above particulars are specially prepared by Messrs. Rayner and Co., of 5 Chancery Lane, London, W.C.2. from whom readers of this Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner and Co. will obtain printed copies of published specifications and forward on post free for the sum of 1s. each.

The Week's News

Oadby Urban Housing.

The U.D.C. have decided to apply to the Ministry of Health for sanction of further housing loans of £5,770 and £4,175.

A Liverpool Architect's Will.

Mr. T. T. Wainwright, of Liverpool, architect and surveyor, left £284,561. He bequeathed about £3,500 to charity.

Housing at Treeton.

A scheme for the erection of 100 houses has been approved by the Ministry of Health. The R.D.C. intend to erect forty first and the remainder later.

Andover Housing.

The Housing Committee has decided to invite tenders for the erection of thirty-three houses B (3) type instead of B (4) type, with a view to reduction of cost.

Dulverton Rural Housing.

Lord Carnarvon is selling land to Dulverton Rural Council at £5 per acre for the erection of houses at Brushford, Kingsbrompton, and Hawkridge.

Cubley Garden Village Scheme.

Ninety-four houses, the first part of the Cubley Garden Village scheme, are nearly completed, and a plan showing the lay-out of the next fifty houses has been approved.

Change of Address.

Sir Banister Fletcher, F.R.I.B.A., F.S.I., has removed from 29 New Bridge Street, E.C.4, to 1 King's Bench Walk, E.C.4.

Housing at Foleshill.

Application is being made by the Foleshill R.D.C. for sanction to a loan of £5,300 for street works and storm-water sewers.

New Forest Housing Scheme.

Official permission has been received to an application for a loan of £10,640 in respect to the Ringwood Road, Totton, scheme.

Town Planning for Doncaster.

Professor Abercrombie and Mr. T. H. Johnson have been instructed to prepare a detailed town-planning scheme on lines indicated by them, including a ring road within a three-miles radius of Doncaster.

The Late Mr. Samuel Blower.

Mr. Samuel Blower, of Esme Road, Sparkhill, Birmingham, builder, a prominent member of the Master Builders' Association, who died on March 25, left £14,671 gross and £12,532 net.

Housing at Lewis.

The T.C. have decided to borrow £2,000 from the Public Works Loan Board, the fourth instalment of a loan of £14,720 in connection with the erection of working-class dwellings.

Housing at Seaham.

Plans for fifty additional houses have been approved by the Housing Commissioner. Owing to the coal stoppage there is a shortage of bricks and some of the workmen are being paid off.

Proposed School Buildings.

Middlesex Education Committee have agreed to ask the County Council to spend £28,000 on the purchase of sites for secondary schools at Southgate, Finchley, and Enfield.

A New Library for Cambridge.

At a Congregation of the Senate of Cambridge a Grace has been presented, authorising the Library Syndicate to take steps for obtaining a site whereon to erect a new university library. The Library Syndicate recommended a site in Sedgwick Avenue, against Newnham and Selwyn Colleges.

Sandon Estate War Memorial.

A fine memorial to the men from the Sandon estate who fell during the war has been unveiled. The work of Mr. Albert Toft, it takes the form of a bronze statue of a soldier, and has been erected on the green.

The Late Professor Nyrop.

The death is announced of Professor Nyrop, a leading Danish architect, at the age of seventy-two years. His best-known work is the Copenhagen Town Hall. Professor Nyrop was an honorary member of the R.I.B.A.

Portland Stone for Canada.

According to a report received by the Department of Overseas Trade, the possibility of using Bath and Portland building stone in Canada in place of Bedford and Indiana limestone from the United States is receiving attention.

Houses by Direct Labour at Bradford.

One hundred and sixteen houses are in course of erection by direct labour on the Bradford Moor site. Eight are so far advanced that they will be completed in a few days. The scheme provides for the erection of 604 dwellings.

Wolverhampton War Memorial.

Wolverhampton T.C. has adopted the recommendations of the War Memorial Committee to erect a monument at the south-west angle of St. Peter's Church, the site selected by Mr. J. W. Simpson, president R.I.B.A. It was proposed to spend £5,000 on the memorial, for which designs are to be invited in competition.

Architects and New Housing Policy.

Sir Theodore Chambers and Messrs. George Cordery, Cuthbert Lake, and Dendy Watney have been nominated to represent the Surveyors' Institution on the Committee appointed by the R.I.B.A. to investigate and report on the possibility of formulating a National Housing Policy on a contributory basis, to come into operation on the termination of the Government's present commitments.

Housing Statistics.

Sir Alfred Mond states that 45,000 houses have been completed, and they are now being completed at the rate of 7,000 a month. Local authorities have found that their original estimates in many cases were beyond the demand, and the total figure has been revised. It now stands at 300,000, and the reductions have been effected on the principle of cutting off schemes in outlying districts and concentrating on the great industrial areas where the demand is known to be great.

New Open Space for Bethnal Green.

As a result of the visit in the early part of 1919 of Queen Mary to an East End slum, the centre of which is Brady Street, Bethnal Green, the special attention of the Ministry of Health and the L.C.C. was directed to the area, and a scheme formulated for clearing the site and building a number of three-storey tenement dwellings. It has not yet been possible for the L.C.C. to make the clearance owing to the fact that no alternative accommodation is at present available for the dispossessed tenants. In the course of the weekly record issued by the National Housing and Town Planning Council on behalf of the housing committees of local authorities, it is stated that little hesitation should be shown in devoting the area to public use in the form of an open space.

An Abandoned Building Scheme.

In an action against the British Commercial Lorry and Engineering Company, Ltd., of Manchester, a settlement has been reached by which Mr. M. T. Foden, of Deansgate, architect, is to receive £1,750 to be reduced to £1,000 if paid within one month, with costs, and Mr. T. Sumner Smith, M.Q.S.A., £1,250 to be reduced to £1,000 if paid within a month. The action arose out of professional services rendered by Mr. Foden and Mr. Sumner Smith in connection with certain projected works on the Trafford estate at Stretford, which the company had not proceeded with.

The R.I.B.A. and Building Contracts.

An important conference has been held in the Council Room of the Royal Institute between representatives of the R.I.B.A., the Society of Architects, the Institute of Builders, the National Federation of Building Trades' Employers, the Surveyors' Institution, and the Quantity Surveyors' Association. At the request of the meeting the chair was taken by the President, Mr. John W. Simpson. A friendly discussion followed upon some introductory remarks by the chairman, and it was unanimously agreed that a new form of Conditions of Contracts between Employers and Builders should be drawn up for general use in the Building Industry of England and Wales. A Sub-Committee of four builders and six professional men was then appointed to consider the matter and report to the parent conference at an early date.

St. Dunstan's Hostel.

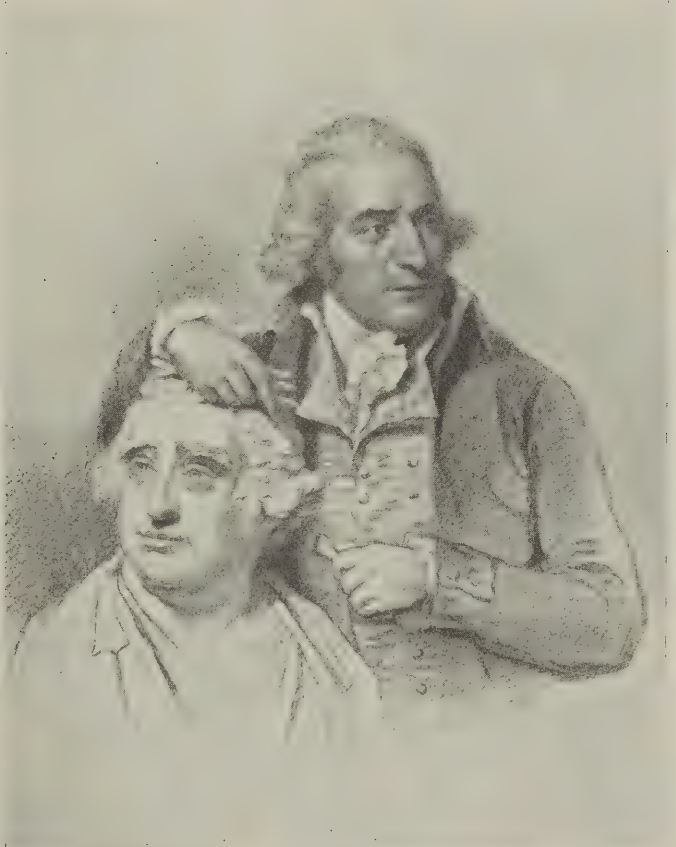
There are now 1,772 names on the books of St. Dunstan's, 106 new-comers were admitted during 1920, and in the course of the year 305 blinded soldiers completed their training and were set up in occupations they had mastered. Thus more than 1,200 men (says the Sixth Annual Report of St. Dunstan's) are already established at work. A certain number of very expert blinded soldiers still remain at St. Dunstan's as pupil teachers and instructors to the new-comers. "From the first," writes Sir Arthur Pearson, Bt., G.B.E., "I have sought to have blind teachers for the blind and gradually our staff has been augmented from the ranks of the sightless soldiers. The blind instructors have shown a really astonishing capacity for imparting their knowledge to others. The wives and other relatives of the men have in many cases come to receive instruction in the various handicrafts so as to be of practical assistance to the blinded soldiers when they become home-workers."

Among the men still in training at St. Dunstan's are fifteen Colonials; several who returned to their own countries when they lost their sight have now decided to return for a course of instruction. Quite a number of Colonials have settled permanently in England. The total of those who have gone to the Colonies and taken up work there is given in the Report as follows: Canadians, 63; Australians, 70; South Africans, 10; New Zealanders, 20.

Wednesday, June 1, 1921. Vol. LIII. No. 1378

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



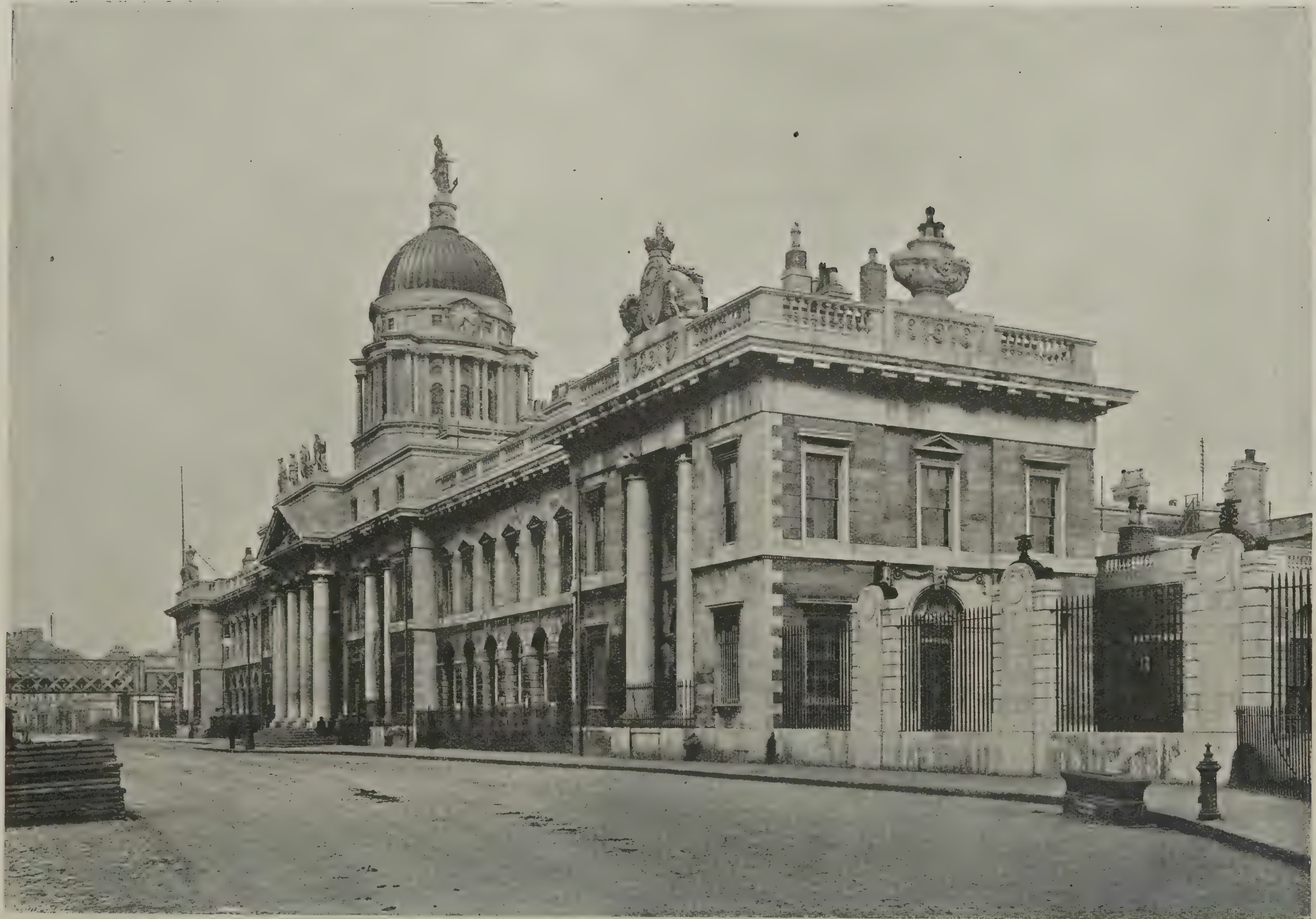
JOSEPH NOLLEKENS, R.A. (1737–1823).

Joseph Nollekens, R.A., was the son of Joseph Nollekens the Flemish landscape painter. He was placed under Scheemakers about 1750. While studying in Rome in 1760, he met Garrick, who commissioned him to execute a bust. This was so successful that Sterne also sat to him, being quickly followed by members of the Royal family and distinguished political and social personages. He added to his income by buying and selling antiques, and was very successful in Stock Exchange speculations, dying worth £200,000.

27-29 Tothill Street, Westminster, S.W. 1.

Monumental Architecture. 2.—The Custom House, Dublin

James Gandon, Architect



The burning by Sinn Fein of Gandon's magnificent Custom House, at Dublin, will be universally deplored. Begun in 1781, it occupied ten years in building, and was unquestionably one of the finest works produced during the later Renaissance. Newspaper reports state that the structure is completely gutted.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, June 1, 1921 Volume LIII. No. 1378

Mr. Fry's Belated Fallacies

IN arranging its programmes of open lectures, the R.I.B.A. has often shown courage and discretion in about equal proportions. Boldly as well as wisely it invites the unorthodox person (which is not to say the freak and the faddist) to unburden himself. It gives him a distinguished opportunity to cleanse his bosom of much perilous stuff. Perfervid protagonists of forlorn hopes and lost causes are secure of the hospitality of Conduit Street, provided their eccentricity or heterodoxy is sufficiently notorious, and has some nexus, real or imaginary, and no matter how remote or intangible, with the art or the profession of architecture. Mr. Sidney Webb, Mr. Bernard Shaw, Mr. Einstein, Mr. Goodyear, Mr. Jay Hambidge, have all, in turn, responded to invitations to give reasons for the faith that is in them, or at least to make public profession of it, to explain themselves frankly and fully to the inquiring minds of the quidnuncs of Conduit Street. (The term "quidnunc" is here wholly complimentary, as implying an eclectic philosopher, deriving from the early Greeks, who is avid of information, suggestion, or mental or moral gymnastic.) Whether the apostles of the unconventional ever make crowds of converts in Conduit Street is an idly speculative question. It is of some slight importance, however, that such lecturers usually bring the Institute considerable publicity.

Mr. Roger Fry has, at all events, admirably fulfilled this beneficent function. It has taken the public by the ear, and set "The Times" searching for a pillar of orthodoxy, whom it had no difficulty in discovering in Sir Reginald Blomfield. Mr. Fry's address, like Sir Reginald's brief commentary on it, was emphatic in opinion but courteous in tone. When Mr. Fry told us that our buildings become dowdy in a few years because we dress them in accordance with an ephemeral fashion, he softened the censure with the consoling observation that this phenomenon of following the fashions is "more or less world-wide." This is not a peculiarly English vice, then, to make us ashamed of our imitative race, but is a widespread manifestation of a human weakness for playing the ancient and primitive game of "follow-my-leader." It is probably prevalent in Patagonia. There is some comfort in Mr. Fry's assurance on this point, and more still in the consequent reflection that argal his charge is frivolous and unnecessary. If the failing is human and universal, Mr. Fry might have left it to be "taken as read."

To what does the accusation really amount, after all? To nothing more serious than that architects are apt to design in the mode that happens to be in favour among their contemporaries, or at least to reflect that mode. Each in his heyday, Pugin, Cockerell, and Norman Shaw, for examples, did create a precedent in design that lesser men eagerly followed, either of their own free volition, or because clients insisted on being in the fashion, or because the architect helped them to make up their minds by being able to prove to them that such-and-such was the fashion; but what would you otherwise? Always the master must have his disciples, must found his school. If Mr. Fry chooses to degrade this process by likening it to the fashions in attire, that is his fallacy. Things may be like and yet unlike, and human beings are very variously and sometimes viciously gregarious, following a multitude to do evil in architecture as in other things; but it is futile to complain of their nature, and therefore architecture is always going to be racy of its period.

Just as following the fashion induces tame and perfunctory design, so, at the other extreme, striving for originality results in wilful and egotistic self-assertion. There is, of course, always a safe middle course, a *tertium quid*, that is (to adopt Mr. Fry's atrocious tailoring or millinery simile), neither to commit the vulgarity of dressing in the height of fashion, nor to fly to the opposite "vulgar errour" of exaggerated and insolent contempt for it, but to follow its dictates discreetly and subjectively. That is the normal average procedure; and to succeed, whether æsthetically or commercially (and the two sorts of success are not so completely disparate as some would have us suppose), an artist must interpret the thoughts, preferences, aspirations, peculiar to his own period: he is an exceptionally strong man if he can resist expressing its whims and caprices also. Any violent struggle to escape the subtle influences of epoch and environment is futile. Even genius must fail if it does not successfully interpret harmoniously the tone, tendency, temper of his time. Nevertheless, he will find opportunities to assert, with becoming modesty and restraint, his own individuality as a corrective to the "mass sympathy" by which inferior artists are overwhelmed.

Mr. Fry's remarkable address was the more valuable for being provocative, and because of this quality obtaining a considerable share of publicity, and hence turning the thoughts of the laity into an unaccustomed channel. It turned their attention to the presence of buildings in their midst! A special correspondent of "The Times" thought it worth while to discuss with Mr. Fry "the attacks which he had made on modern architecture"; and, incited by the same scribe, Sir Reginald Blomfield said a few words in reply to those alleged "attacks," which hardly deserve that description. Apparently Sir Reginald did not regard them as such. "I have no particular quarrel," he said, "with Mr. Fry's remarks, but he overlooks one very important fact, and that is that the majority of buildings are not designed by architects at all, but by builders. What he announces as the latest panacea for modern architecture the best English architects have been practising for the last twenty-five years. It is more than a generation since we got tired of irrelevant ornament. For many years we have dispensed with it in our buildings, and it has long been a commonplace with us architects that beauty is to be found in efficiency and the expression of purpose"—a sufficiently liberal interpretation being given to that purpose.

Mr. Fry had said that since the eighteenth century Sir John Soane is the only architect whose work is tolerable, adding afterwards the perhaps inconsequent but certainly sound opinion that Westminster Cathedral is admirable. That verdict will pass *nemine contradicente*, but Mr. Fry's confession that the one building which partly fulfils his ideal of a naturally beautiful structure is the Kodak house in Kingsway has excited opposition. On all three points Sir Reginald Blomfield's opinion was sought. He disagreed about Soane, "a man of some ability, with a mischievous passion for original design and for the rehabilitation of some of the ugliest details of classic." He assented to Mr. Fry's opinion of Westminster Cathedral—"the inside is incomparably better than the outside." His observations on the Kodak building were misreported as being adverse, and he promptly made the correction that he offered no opinion on it, but that he thinks it fulfils its purpose admirably.

Now, whether or not Sir Reginald Blomfield agrees with Mr. Fry's opinion on following the fashions, on excessive ornamentation, on the status of Soane, on the æsthetic qualities of Westminster Cathedral or the Kodak building in Kingsway, may possibly be of considerable importance to Mr. Fry and to the lay readers of the daily newspapers; but professional architects, hardly wanted confirmation of their faith on these *res judicata*. It is, nevertheless, very pleasant to get it from Sir Reginald Blomfield, who has the enviable knack of investing with fresh interest the veriest commonplaces of architectural criticism.

J. F. McR.

Notes and Comments

Further Postage Inflation

THE General Post Office goes from bad to worse. It is levying three new rates of increase in the cost of postage. Post cards, once carried for a halfpenny each, will now cost us three times as much. The postage on circulars and other printed matter (not newspapers, however) is to cost a penny. Registered letters will require a threepenny stamp. These new rates will all do much to restrict business; but the most mischievous of them is the doubling of the cost of posting printed matter. For example, a firm sending out a hundred thousand circulars monthly have cut down the order to fifty thousand; so the firm's business activity is reduced by one-half without the Post Office being a halfpenny better off, except through the lightening of its burden; and all concerned in the production and issue of the circulars will suffer an appreciable loss; and this case will be multiplied by many thousands. The increase in the postage of postcards will be greatly resented by professional and business men—architects and builders, for example—who made great use of the handy and formerly cheap means of conveying short messages. This facility the new rate will kill. The postcard will soon be as obsolete as the sample post, which the G.P.O. very cleverly killed by raising the postage from a halfpenny to twopence. To imagine that to raise the cost of postage is to increase commensurately the revenue from it is the most foolish of fallacies. Chambers of Commerce, and similar institutions, are everywhere protesting, as at Cheltenham, against "the imposition of greatly increased costs of commercial postage." If Mr. Kellaway has any courage he will hark back to the Henniker Heaton tradition of "small profits and plenty of them."

Destruction of Gandon's Custom House

On Wednesday, 25 May, the Dublin Custom House was wilfully and deliberately destroyed by fire-raisers. James Gandon's masterpiece, the chief architectural glory of Ireland, was reduced to a smouldering heap of ruins, not accidentally, but wantonly and with calculated wickedness. This senseless outrage on civilization will grieve the hearts of all true Irishmen, and of all lovers of noble architecture, whatever may be their nationality or their politics. It is truly distressing to find that in the twentieth century men supposedly civilized can show such insensibility to the charms and claims of art. James Gandon began building the Custom House in July 1781. It was not only a fine thing in itself, but stood as the exemplar of fine building in Ireland, and especially, of course, in Dublin. According to early accounts of the fire, only the dome was likely to escape utter destruction. This dome, it has been said, partakes somewhat of the grace of the twin cupolas at Greenwich Hospital, while hinting at the greater dome of St. Paul's. It was introduced as a central feature of the composition to make the building conspicuous from the sea; but there was an unfortunate difference between the scale of the huge Doric Order to the portico and the delicate Corinthian Order forming the peristyle to the dome, although considered as a piece of spirited architecture the dome is admirable in every particular. Inside the dome the rich decorations, prepared direct from Gandon's drawings, were among the most beautiful survivals of their period. And all this beauty has been wantonly destroyed! The outrage is too wicked for words.

"Economizing" on School Buildings

Speaking at the annual meeting of the National Society last week, the Archbishop of Canterbury deprecated very mildly the threatened exercise of rigid economy in the matter of school buildings. "There was, unhappily," said his Grace, "what was practically a definite prohibition of the spending of money on what was not absolutely necessary in education. That was, in his opinion, unsatisfactory." He understood that "the difficulty of giving effect to the ambitious schemes of Mr. Fisher was largely a matter of money for buildings," and he threw out the suggestion that the State might possibly come to some arrangement with regard to the use of certain Church buildings. Thereupon the Marquis of Salisbury moved a resolution to that effect. It will not do. Not only does the proposal revive an old bitter religious controversy which we had all hoped had been dead and buried in consequence of its destruction of the School Board for London, but it would almost certainly perpetuate a bad tradition of school building. Generally speaking, Church school buildings are everything that they ought not to be, and the Church has always looked sourly on the better and more expensive schools put up by secular authorities. With the religious aspects of the question we are not now concerned, but experience has given us a very wholesome dread of the influence of religious bodies on school buildings. "Cheap and nasty" was stamped all over them, and they afforded concrete and deplorable evidence that economy and parsimony are distinct entities which combine about as freely as oil and vinegar.

The Guilds and Technical Education

Very appropriately Mr. John W. Simpson, P.R.I.B.A., was among the distinguished guests at the banquet given at the Mansion House last Thursday by the Lord Mayor of London to the Masters of the City Livery Companies. Mr. Simpson is keenly interested in technical education, and the Livery Guilds have not completely forgotten that they were founded to foster it; otherwise the City and Guilds Institute would not have accomplished so fine a work in the education of craftsmen, including nearly all the tradesmen associated with the building industry. The Lord Mayor spoke of "a revival of the Guilds' interest in technical education, and in the prosperity of the arts and crafts with which they were respectively associated." One may cite the Carpenters' and Plumbers' Companies as notable instances. Could not the City Guilds be induced to co-operate yet more closely with the R.I.B.A. in the interests of better organized technical education? We may rest assured that so far-sighted a publicist has not overlooked this blessed possibility.

Architectural Causerie

WHERE TRADITION LINGERS

IN my daily peregrinations my way takes in the vast labyrinth of Soho; not only the square of that name, with the streets and by-ways contained between Leicester Square and the Oxford Road, but the extension of the maze northerly as far as Fitzroy Square, that unfinished speculation of the Adam Brothers, where Portland stone is thinly veneered to hide the stock brick carcases of town houses that never flourished.

* * *

As one walks one reads the history of this once fashionable quarter of late seventeenth and eighteenth century London. First one notes Soho Square, originally named Monmouth Square, with the adjoining Monmouth Street, famous a century since as the Mecca of Hebrews who sold old clothes and equipped gentlemen of the road, which had its name changed after the execution of the Duke, when it received the appellation of Soho from the battlefield cry of the Duke's soldiers at Sedgemoor. Then one falls to musing on the character of the houses rebuilt by Isaac Ware, including the "House of Charity," and the building occupied for a century by Messrs. Dulac, both of which reveal Ware's taste for florescent ornament in the ceilings. We obtain impressions of Adam influence, of the pediment of Carlisle House, of fronts in the mode of Kent and Vardy—in fact, of the whole range of contemporary events from Kneller to Hogarth.

* * *

In the middle period of the eighteenth century Soho proper became a great place for artists, architects, and literary people. Sir William Chambers, for instance, had an office in Poland Street. After the French Revolution aristocratic refugees found safe asylum in the tall houses of Soho, some of whom were compelled by stress of circumstances to give lessons in French, in dancing and deportment, thankful to have escaped the Terror, and inwardly praying for better days. Soho owes its present Continental flavour to the settlers of those years.

* * *

By the year seventeen hundred and ninety-one the district north of the Oxford Road, forming the newer Soho, was beginning to take shape. Berners Street, destined to house the prominent members of the Royal Academy, including Sir William and Lady Chambers, had come into existence as early as 1750, the vista terminated by the imposing façade of the Middlesex Hospital. Rathbone Place had squeezed itself from Oxford Street in its endeavour to seek the pastures beyond as early as the reign of the first of the Georges. In the extension of Rathbone Place, of Goodge Street, once a country lane, of Charlotte Street, Whitfield Street, Cleveland Street, and Fitzroy Square, we see the efforts made by the late eighteenth-century architects and builders to house those Londoners who desired country air not too far from the fashionable centres, and within easy distance of the Pantheon and Marylebone. While the prominent painters of the Royal Academy looked upon Berners Street as providing the best accommodation suited to their rank, men of lesser note, but not one whit the less ambitious, took their station in the adjoining streets. We can trace their passing in the altered first-floor centre windows, raised a hundred years since to trap the northern light. Close on the heels of the painters came the craftsmen. Abercrombie, who made the metal fittings for Sir William Chambers and the Brothers Adam, established his works in Whitfield Street in 1730, where they still stand, holding many of the original patterns. Rathbone Place is still a centre for architectural enrichments, and in Berners Street you may find specimens of the taste and craftsmanship of Carron equal to the days when a good fireplace was considered to be essential even in the attics.

* * *

A quarter of a century ago Soho on both sides of Oxford Street had reached its lowest. The houses were neglected, the shops remained vacant, and the population was representative of Russia, France, Germany, and Switzerland. In those days, when the Kendals played in the theatre now replaced by the Scala, it was possible to order scenery from a dozen scene-painters whose studios occupied neighbouring backyards. You could walk through every street with some certainty of finding original shop-fronts, and many of the old doors replete with knockers and ancient brass-plates were still extant. Soho in those days was shadowed by Scotland Yard, and the restaurants were the rendezvous of suspicious characters.

* * *

I have often been asked at what period the foreign restauranters came into Soho. After diligent research I placed the event to coincide with the Great Exhibition of 1851. We owe a lot to the enterprising foreigner for reviving the romance of this fascinating district, and for doing something towards the preservation of its architectural treasures.

* * *

It is surprising what a number of antiques can be found hereabouts, apart from the buildings and the populace. In the square it is possible to purchase the rarest specimens of furniture. In Wardour Street you may purchase anything. South of Oxford Street prices are high, but the goods are rare. Only last week I heard of a gentleman who was on his way to purchase a sedan-chair, the price of which seemed prohibitive. It is possible that he represented the latest purchaser of this particular type of conveyance, for a hundred and fifty years have elapsed since chairs of elegance and severity were made both in Frith Street and Greek Street.

* * *

We are concerned with the lingering tradition of craftsmanship, and here you will find it. Should you require the finest lacquering and gilding, Soho will produce it: locks and keys, candelabras, girandoles, mirrors, fireplaces, wall-hangings, ironwork of every description. Painters skilled in the art of marbling and graining, workers in marble and carvers in wood, all find their living hereabouts. As Soho approaches Euston Road the craftsmen give place to the small broker. Here are the shops of the merchants who supply oddments in metal, among which rare bronzes occasionally appear. Here are the venders of antique rugs, the journeymen who repair long-case clocks, and lacquer the cases in semblance of those once sent to China in the ships of John Company to please our forbears.

* * *

In this medley of brickwork, in this assortment of streets, reminiscent of the northern lots of Dublin, in the silvered expanse of Fitzroy Square, recalling statelier centres farther west, two centuries meet and commingle. It is a far cry from the sedan-chair to the motor-car, yet you may buy each vehicle in Soho—that is, if you can afford it. Sometimes in my walks I would fain spend a shilling on a chairman.

AERO.

Architectural Office Administration

By FRANCIS LORNE, A.R.I.B.A.

THE calling with which we are concerned here, while not definitely in its entirety either an art, a profession, or a business, such as sculpture, medicine, or ironfounding, is to some degree a part of each, and in its way the most composite and, perhaps, the most exacting vocation in life.

The practice of architecture has become much more complex in its demands than it was in the days of the Brothers Adam, or Augustus Welby Pugin. An enormous change has occurred in many of the matters relating directly to building. Acts of Parliament and regulations by subsidiary bodies have come into force governing the erection of structures. Plumbing and sanitary work have been almost completely remodelled. Steel and concrete framework, electric light and power, heating and ventilation, elevators, gravity conveyors, mail chutes, intercommunicating telephones and pneumatic delivery systems, have all come into everyday use. There has arisen, too, the consideration of time, which is of the essence of every contract. Buildings are now removed and re-erected in less time than our fathers took to lay foundations. This does not necessarily mean an advance on their powers of design; it is merely a condition of modern practice.

These considerations have made the work of the modern architect more difficult, but the stiffening of the problem only heightens the interest and gives increased zest for the responsibilities. These considerations have also rendered changes in practice necessary, and have enforced a subdivision of work and responsibility. It has become essential in architecture (as it already has become to a large measure in medicine and law, and always has been in manufacture), not only for certain firms to specialize in certain types of building, but also that the members comprising a firm should specialize in a definite branch of work connected with that firm.

The practice of architecture consists in the designing and superintendence of the erection of buildings. Architecture is not the production of beautiful drawings, but rather the erection of buildings beautiful in themselves and satisfying the needs of those who occupy them. A building must be first structural; and the art lies in the clothing of this structure. A client insists that the building which he commissions his architect to design shall satisfy his needs. These are, that the building shall be well planned, with rooms and accesses thereto conveniently located, well lighted, heated, and ventilated, the building and its relative parts of such proportions, and with the use of such colour and ornament, as shall render it beautiful, and the whole complete for the money he specifies for disposal. Young architects will do well if they remember that a client is frequently more interested in a piece of work costing £17,000, when he has been assured it will not exceed £15,000, than he is in the profile of a cornice.

The architect has also a legal responsibility to his client. A law-suit may develop at any time, and the architect may be called on to put all his cards on the table, as it were. When he can produce his drawings, correspondence, records, and statements in such a manner as to give a clear history of the operation, it is no more than his client expects. A genius will do this naturally. He will anticipate his client's needs, solve his problem, arrange the erection of his building and the keeping of records with clarity and expedition, and, more, he will not make the doing of it too obvious, because of the strength and ordered frame of his mind. What the genius will do naturally, a well-trained orderly person will do perhaps with difficulty, yet it is quite possible for ordinary minds and lesser lights, with order and good training in fundamental principles, to approach the work of the man of genius, for no one can say how much the work of a genius may depend on an orderly arrangement and great application.

There has been for some considerable time an unhealthy disregard for systematic business methods among architects. A desire has increased, too, for water-colour drawings showing nothing in particular, rather than drawings giving information from which men build. Following upon this, there has been a growing disregard for the profession, principally by the business man, who finds his architect more interested in illustrating a water-colour of the building at the Academy than in the solution of his problem. It should be kept well in front of all architects, old and young, that no architectural ability, however great, can obscure in the eyes of a client an evident lack of ordinary business principles on the part of his professional adviser. For this long training is necessary, and, with the training, association with men of wide and considerable experience. The young architect should realize that his profession is a very responsible one, for when he builds, he does not build for to-day, but sometimes for generations, which is not a matter to be taken lightly. If the area covered by this article appears considerable, the young architect should bear in mind that it is no more than is necessary for general practice, and is the basis of what an orderly person would do. In some cases the forms given may be too elaborate, and in others they may not go far enough, but they are presented in such a manner as to bear expansion or contraction.

Success in the practice of architecture depends on the ability of a man to handle its various parts. The smooth running of all the parts should be the architect's ideal, and an efficient system is essential to gain this end; at least, it will make the attainment more possible and more pleasant.

To make this clearer I shall divide the subject into four distinct sections :—

1. A definition of responsibilities and duties in an office.
2. Administration of the draughting room; the care and filing of drawings, etc.
3. Correspondence, records, and filing.
4. Accounting and financial statements.

SECTION 1.

In dealing with Section 1, the definition of responsibilities and duties in an office, one feels very near the mainspring of the organization.

In every organization there must be a head, just as there must be a leader for every work and adventure of man. Every business demands it. So is it with architecture. There may be various heads of departments, several partners, but for the administration of an office there must be one who has the final word. This head must be an architect, a potential designer, one with a knowledge of business, of building, and the laws relating to building; one who knows, and is able to travel, the whole gamut of the practice. This man cannot be an expert in every branch—designing, construction, business practice and law—but he must know each part as the conductor knows each instrument of his orchestra, and he must know how to get from the various experts in departments under him the completed building which his client desires.

The first essential in a successful architect's office is that each member in the firm should have a very clear understanding of his particular duty, so that the members in themselves can work together harmoniously, each realizing that his own work, no matter how important, is not the entire practice, and that he shall not only carry out his duties with care and diligence, but shall have due respect for the work done by the other member of the firm whose part is just as essential in the final issue. If a good spirit does not exist between the members of the firm, i.e. if one does not have full appreciation of the work of the other, it is very unlikely that the partners will instil in the office staff that esprit de corps which is so essential in the army, and which is equally essential for any really successful organization. It should be the daily endeavour of the members of the firm to instil this, so to order and arrange their own work and the work of every one in the office (in the drawing and secretarial staffs) that each one will know clearly his or her duty, and know exactly how it fits the duties of the others. A definition of duty saves much misunderstanding, places responsibility, avoids overlapping, and prevents any one escaping work and putting it on to another.

To this end it is advisable to form a chart for the members of the firm and also for the staff. A typical chart of duties for the members of the firm is given on form No. 1, which is only suggestive, and can be amended to suit the number of the partners and their various duties. A similar chart may be prepared for the draughting office and for the secretarial staff to suit the requirements.

FORM No 1

GORDON & HENDERSON

Business Administration. JAMES GORDON.	Designing and Drawings. RAYMOND HENDERSON.
Interviews. Correspondence. Filing and Records. Visits to Site. Building Contracts. Accounting and Fees. Employment and Payment of Staff. Business Policy and System.	Interviews. Studies and Sketches. Drawings—Architectural, Structural, Mechanical. Specifications. Visits to Site.

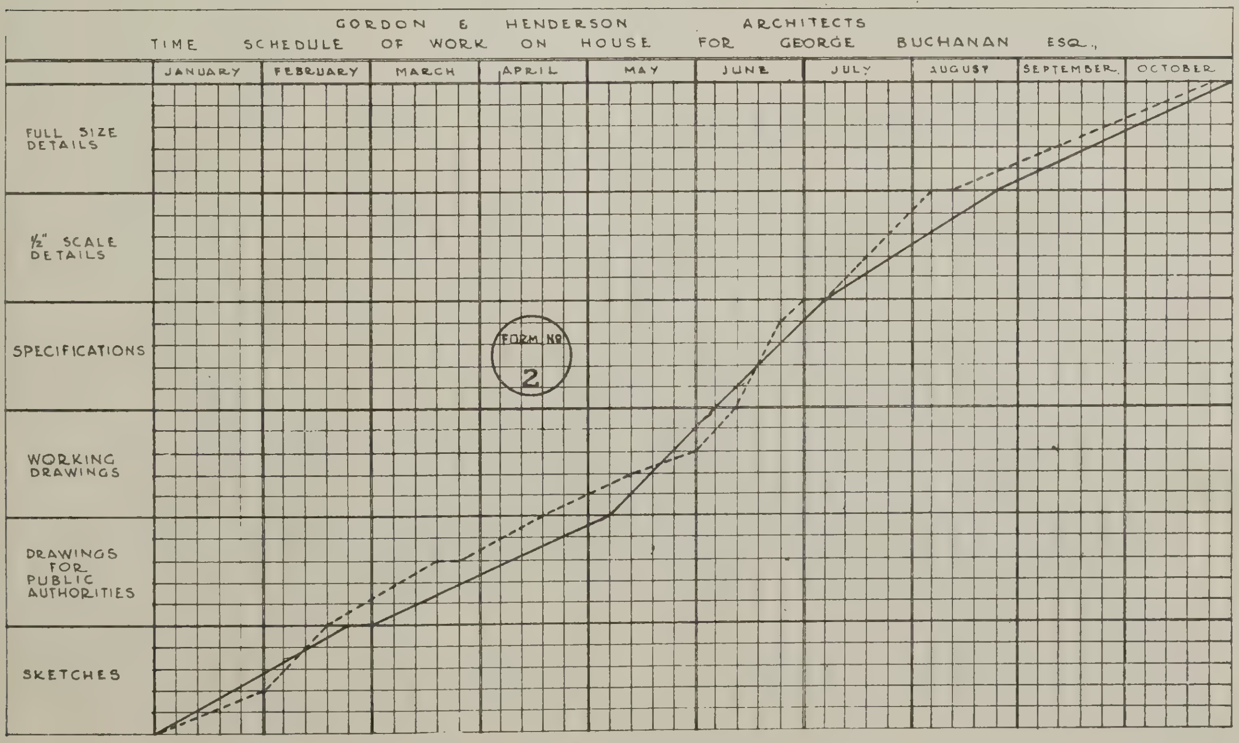
Nothing is so wasteful as the overlapping of duty in the seniors of the firm. It is obviously unnecessary for two to do the same thing, and dual orders to the staff only end in confusion. No one can be so critical of a senior or seniors as an architectural staff. Nothing is so quickly noted as indecision, lassitude, or lack of one partner to stand by the decisions of the other, and any failure to grasp the essentials of a problem. When changes are necessary, as they very frequently are, the staff should be taken as much into confidence as is advisable, and not kept too much in the dark, as thereby despondency is prone to arise. The partners should thrash out every scheme, formulate every plan, define every move, and, in short, form a unified command for the control and guidance of the staff. If they fail in this, it is only with great difficulty that they can keep the respect of the same staff. Mr. Wilson has said in one of his essays "in every kind of business some one has to be trusted." The human element cannot be eliminated completely, and the success of the organization depends on the men in whom this trust is vouchsafed. The greatness of a man is known by those he gathers around him, as a man is known by the company he keeps.

SECTION 2

Administration of the Draughting Room, Care and Filing of Drawings, etc.

Perfect order should be the foreword of every draughting room, for without it instructions cannot be efficiently executed, and no sound work is possible. This condition, unfortunately, does not always exist, but it is the duty of every superior to enforce it.

Whenever arrangements have been made for the preparation of drawings for a building operation, and the general scheme has been decided, a chart or time schedule of work should be prepared, defining as clearly as possible the various items of work to be executed, and the time that can reasonably be afforded for so doing. A suggestion of the type of chart frequently used is given on form No. 2. A building has been assumed, and it has been considered that the drawings can be carefully studied and carried through in a period of about ten months; each month has been divided into five parts, giving the greatest



possible number of weeks that can occur in a month (four regular weeks of seven days, with the fifth part for the odd number of days, and each item divided into five parts, each part representing 20 per cent. of the work on that particular item. The time considered necessary for the preparation of the drawings is shown by a solid black line, and the actual amount of time employed in so doing by a dotted line. Such a chart will show exactly the position of the work at any particular time, and will tend to keep the men in the draughting office up to any promise of delivery of drawings which may have been made.

Office Record Book

A large loose-leaf book for the general information of the men in the draughting room is desirable, in which is noted every decision regarding buildings, or parts of them, and such portions as are desirable of minutes of conferences, so that each member of the staff will be kept informed of every decision and every change made. The head draughtsman should be informed each time a decision or change is made, and he should see that this is entered in the book and each person informed who may be affected thereby.

The Preparation of Drawings

It should be a rule without exception that every sketch or completed drawing should have the date of preparation marked thereon; and another rule, which is only second to it, is that every plan should bear a north point. All sketches pertaining to a building should be carefully preserved. It has been found of great advantage at times in a court of law for an architect to produce the number of sketches which he prepared on a definite scheme, showing the amount of labour which he had bestowed upon it. Preliminary sketches, as far as possible, should be made on tracing paper, so that blue prints of these can be obtained whenever required, which cannot possibly be done if these drawings are made on cartridge paper. It is advisable also to prepare the drawings for submission to public authorities, and also the working drawings, on tracing paper, as these will eventually be traced on linen, and the linen tracings will form the final set, from which prints will be made for the contract drawings.

Value of Blue Prints

Linen tracings should be carefully preserved, and not allowed to circulate through the office, as is so frequently done. Whenever a linen tracing is completed a blue print should be obtained and this print used, as damage is almost invariably done to a linen tracing when handled in the draughting room. Tracings on linen should never be sent to the building or to a contractor. The fine types of ink eraser and erasing shield which are now procurable render it so easy to change an original drawing in a manner which is not perceptible, but blue prints should be provided which cannot be tampered with in this way without easy detection. Exception is sometimes taken in this country to blue prints by architects and contractors, but practically all building operations in America are carried through from blue prints, and at least one of the largest building operations in London at the present time is being carried through in a similar manner.

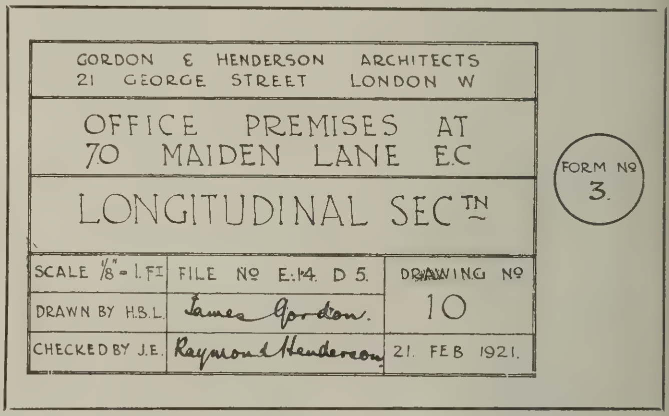
Colouring Unnecessary

It is desirable that colouring be omitted from the plans, as in the modern building operation, where so many sets are necessary, this process becomes extremely expensive, and a system of cross-hatching put on the original tracings is less expensive and much clearer than colour, and once done is suitable for any number of prints, without further expense. Those who have visited buildings in course of construction must have observed that the working drawings, after having been in the contractor's hands for any length of time, are generally devoid of colour, no matter how highly coloured they may have been in the first instance.

Rubber Stamp for Drawings

When it is known that a building is to be carried through a rubber stamp should be prepared, giving thereon the name and the address of the architects, the name and address of the premises to be erected, with spaces left blank for the subject of the drawing; the scale of same; the initials of the person by whom the drawing is prepared; the initials of the person by whom it is checked; the number and date of the drawing; file number and space for the signature of the architects. This rubber stamp should always be affixed in the lower right-hand corner of the drawing, so that in turning the drawings over in an envelope or drawer one is always aware of the position in which the subject of the drawing may be found.

An example of this rubber stamp is given on form No. 3.


GORDON & HENDERSON ARCHITECTS
21 GEORGE STREET LONDON W

OFFICE PREMISES AT
70 MAIDEN LANE E.C

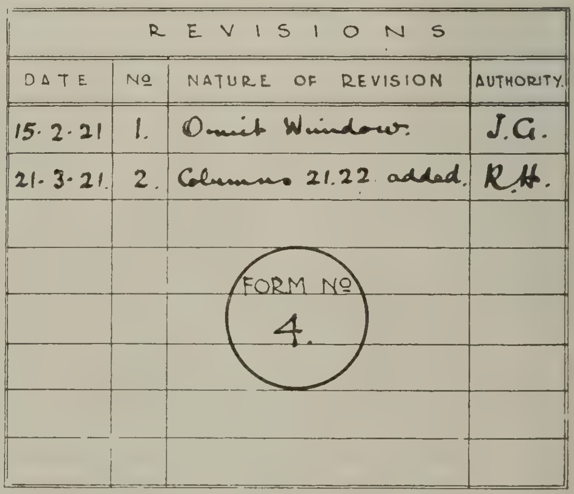
LONGITUDINAL SECTN

SCALE 1/8" = 1.FT	FILE Nº E.14. D 5.	DRAWING Nº
DRAWN BY H.B.L.	James Gordon.	10
CHECKED BY J.E.	Raymond Henderson	21. FEB 1921.

FORM Nº 3.

Stamp for Revisions

Closely adjoining this stamp should be placed the stamp for revisions. An example of this is given in sketch No. 4. This stamp gives the number, the date, and the nature of the revision, and the authority for same, made on the original drawing. The number on the rubber stamp should correspond with a similar number close to the revision with a circle round same, and arrow pointing exactly to such revision.


REVISIONS

DATE	Nº	NATURE OF REVISION	AUTHORITY.
15·2·21	1.	Omit Window.	J.G.
21·3·21.	2.	Columns 21.22 added.	R.H.

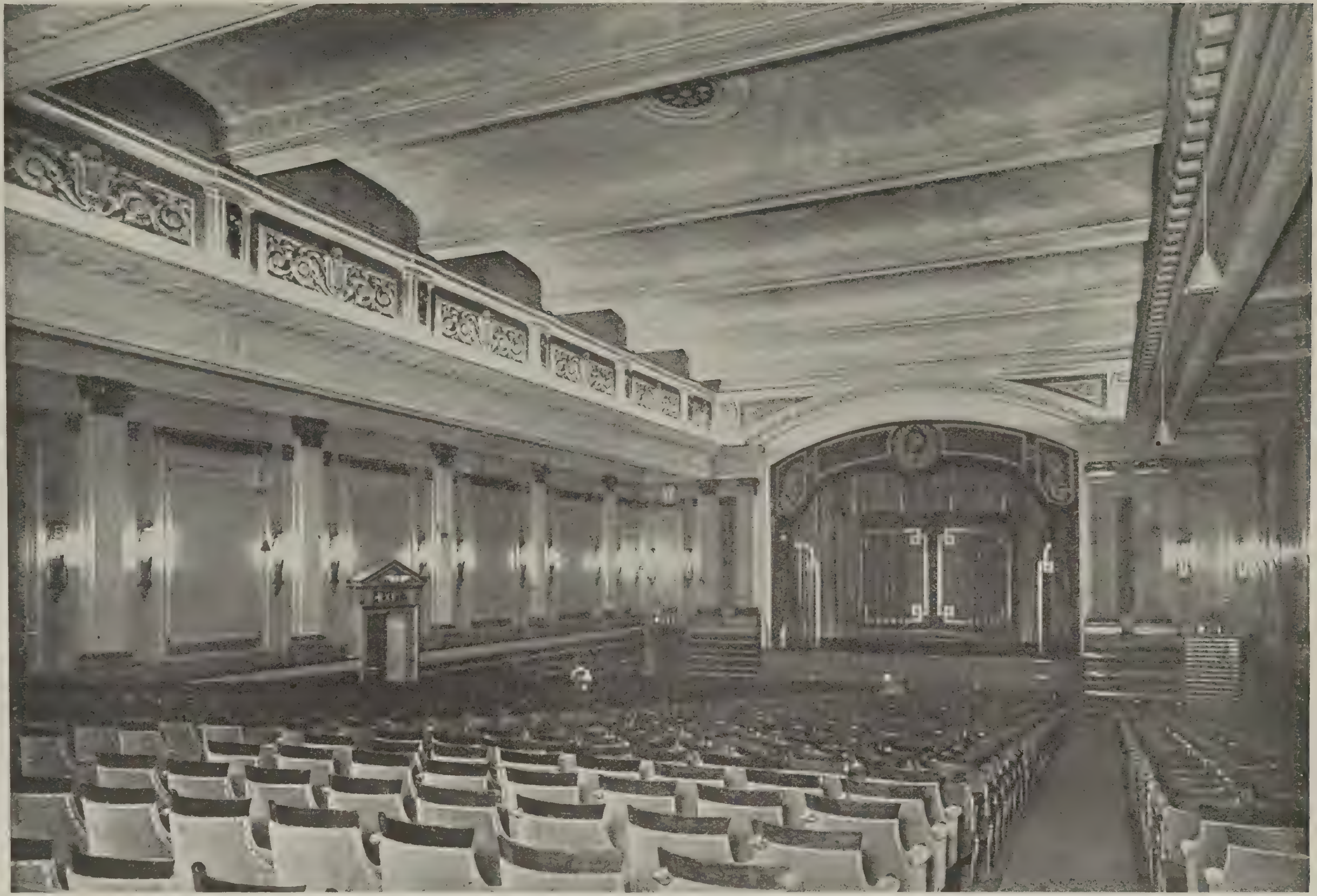
FORM Nº 4.

(*To be continued.*)

Current Architecture. 88.—The Pavilion Cinema Theatre, Marble Arch, London:

General View of Interior

Frank T. Verity, F.R.I.B.A., Architect



This hall provides seating accommodation for 1,200 persons in addition to six private boxes. Architecturally, the design is a simple and dignified version of the classic style, a rose du Barry carpet and seats giving the keynote to the colour scheme. Ventilation is by means of fresh air inlets discharging into the hall through grilles fixed under the wall panels, the foul air being extracted through a trunk carried along the roof.

The Design of the Picture Theatre*

By ROBERT ATKINSON, F.R.I.B.A.

ONE of the most astonishing developments of modern times has been the rapid growth of motion picture theatres, beginning as penny gaffs, sporting the doubtful patronage of the gaping credulous and looked upon as something on a level with Barnum's side shows, the whiskered lady and the fasting gentleman, then progressing through the various stages of the vacant shop, the abandoned skating rink, and the temporary booth, to the not less doubtful level architecturally of the imitation Earl's Court, or the much worse buildings of the wilfully ignorant and rapacious speculator—a period of development when to be even remotely connected with the cinema trade was a stigma sufficient to deter the boldest adventurer—to the higher level of good buildings specially erected by good architects, well equipped, a level which was considered final by the world of yesterday, which is even now as thoroughly out of date as things a hundred years old would be in any other range of development. Even opera houses of yesterday are puny and pitifully defective compared to the magnificent *theatres*, not *gaffs*, of the moving (literally) picture world of to-morrow.

The picture theatre of to-day seats 2,500 people more or less as a normal theatre, and has colossal brothers having a capacity of 5,000 and over, with a degree of dignity and value of design which very few real theatres possess. Theatre design, which has stood still for a hundred years, more or less, still perpetuates the old defects despite the possibilities of modern construction, and the moving picture has overtaken the theatre, passed it. and incidentally applied to theatre design the impetus which conservatism and lethargy in design had stifled almost to death, at any rate in England.

In Germany progress has been made, and recently in America the running had been taken by the proper organisation of theatre design, beginning and often ending with the employment of really *first-class* architects. In England, unfortunately, the first-class architect has not been employed as often as one would wish, whether it be that the picture theatre is beneath the notice of the heads of the profession, or more logically, perhaps, the lack of selective ability of the promoters themselves is to blame. However, the day has arrived when millions are invested or being invested in the picture theatre, and hundreds of thousands spent even on individual buildings; therefore the architect is beginning to sit up and take notice.

Now the picture-house is a place where one goes to see pictures, and incidentally it can be a place where the other senses can be gratified as well. The development of the picture theatre into an opera-house and concert hall, a combination of pure stage settings and gorgeous decorations, cannot be conceived by any one who has not seen the latest thing in this way in any large town in America, and in New York repeated a dozen times over. It has recently been my pleasure to inspect these buildings, and I hope, incidentally, to-night to lay before you the result of my analysis of their merits and defects.

The planning of the picture-house revolves very largely about the projection of the picture on the screen, with which is combined with good vision or sighting for the body of the auditorium, and good exits in case of emergency, etc. Where the site is cheap and sufficiently ample a one-story theatre is the most economical up to a seating capacity of 1,500 persons, but for expensive sites and for large capacities a double-storied theatre becomes essential; roughly, by introducing a balcony, the seating can be doubled; thus a 3,000 theatre can be made to accommodate 1,500 on the auditorium floor, and 1,500 in the balcony.

To plan logically the demand for the greatest possible number of seats at some little distance, say 50 or 60 feet from the screen, and yet not too far removed (120 feet), points to the fan-shaped theatre as being the most suitable; not only does it provide the maximum good seats but it eliminates the bad near-side seats. I need not repeat here that a dome, however flat, reflects sound-waves towards a focus, and so causes an anti-climax of more or less intensity. (Instance, Millionaire Theatre, N.Y.) Apart from capacity and shape, the question of seating and sighting lines is of paramount importance.

Projection is really the crux of the theatre planning, or one ought more properly to say of the theatre section. It is best to lay down the projection and to build the theatre round it. The projection may be very easily worked from the back of the theatre in a building without a balcony, but becomes increasingly difficult where one or two balconies are introduced, because of the angle of projection, which results in either or both a tilted screen and a distorted picture. Where the angle becomes steep (say 15° from the horizontal) it is a question whether a better method of projection may not be secured by projecting from under the balcony, or from a booth in the thickness of the balcony.

The ideal projection, of course, is the

THE PAVILION CINEMA THEATRE, MARBLE ARCH.
FRANK T. VERITY, F.R.I.B.A., ARCHITECT.

---

* Extracts from a paper read before the R.I.B.A.

perfectly level throw, and this can be secured by these latter means, with, however, some little risk of vibration in the balcony type of projection, but in a large theatre probably negligible, and has the advantage of a short throw. The length of projection and the size of the picture are other difficulties; the length of the projection should not exceed 100 feet, but up to 150 feet has been done, and the picture will vary in size with the theatre itself, but as a rule any picture which appears to be over life size from the back of the auditorium is too big, and vice versa. A 12-foot picture is usually considered life-size, and unless in a very small room should not be smaller.

	Throw.
12 feet	50 feet.
15 feet	75 feet.
18 feet	100 feet.
21 feet	125 feet.
24 feet	150 feet.

The screen itself is better of solid plaster distempered white, and not of too smooth a surface (which reflects too sharply). Rear projection has been tried but is not considered as good as front projection, although it has certain advantages, for instance, the shortness of throw, and the dead level projection; the screen in this case is of ground plate-glass, and the throw should be 50 feet or over.

The auditorium of a theatre to seat 1,000 on one floor will need to be approximately 80 feet by 120 feet, and for 1,500 people 120 feet by 150 feet; with balconies, these figures can be doubled. Outside this a space in proportion for entrances, lobby, resting room, etc., will be required. Sites should, of course, have at least two outside walls to streets, and where the capacity is 2,000 or over isolated sites should be selected or allowance made for lateral open spaces on the ground itself.

Balcony design has been radically changed, and instead of the restricting columns or timid cantilever construction of the theatre of the last century, balconies are now designed to carry 1,000 to 1,500 persons on anything from 12 to 20 rows of seats, as well as probably a row of "loges" surrounding the outer rim of the balcony curve. Such a structure projecting 50 to 100 feet, and rising at an angle of 30° to 40°, presents a problem which outweighs anything else in theatre design. Usually, such a balcony is fed at two or more levels through its thickness in the manner of the seats in an amphitheatre, and the large spaces left are utilised as retiring rooms, smoking rooms and lounges generally.

Very frequently a large portion of the lower ceiling is omitted and great play made of mezzanines and wells visible from the auditorium itself, thus certainly improving the value of the rear seats and helping ventilation. These great balconies are built only partially on the cantilever principle. A great lattice girder 10 or 12 feet deep is first placed at the nearest point to the front of the balcony which will provide sufficient depth. The cross beams are then placed running forward as cantilevers to the front edge. Through the spaces of this great lattice girder the tunnels feeding the seats have sufficient headroom to pass. This is certainly the most economical form of gallery construction, and, compared with the huge cantilevers which it replaces, is very simple.

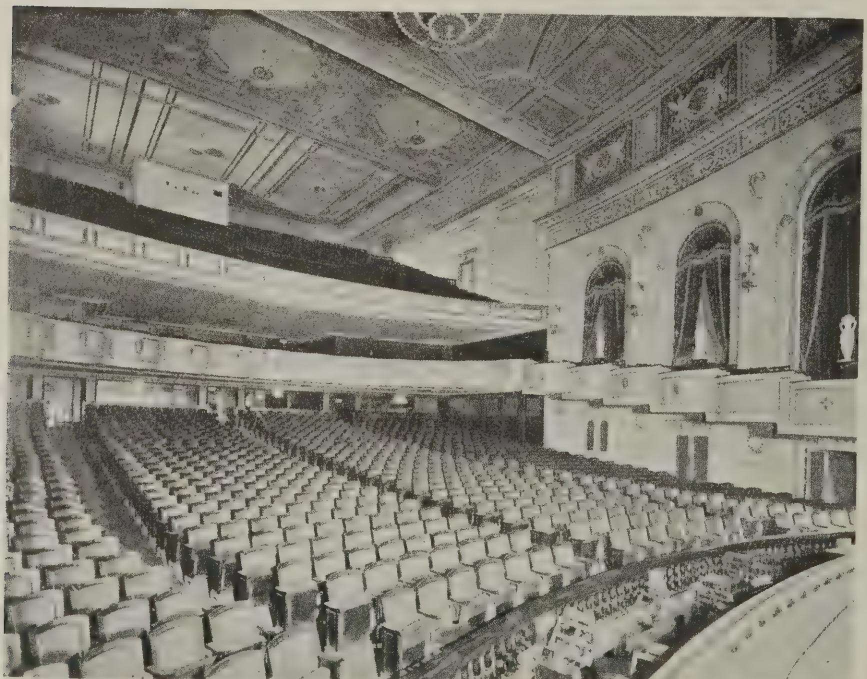
It cannot be said that picture theatre designs have evolved any special expression either in internal decorative design or as external expression, beyond, perhaps, the more or less glorified niche as an entrance doorway.

Despite the progress in planning already made on that of the ordinary theatre, the internal scheme is very largely based upon the out-of-date work of the last century, colossal ceilings, with heavy ornament; domes and candelabrum, with a proscenium opening either arched or square, and equally colossal in character, seems still to be the sum total of effects. Many of the smaller theatres are distinctly bad in taste, restless in ornament, badl designed, and as badly modelled, generall consisting of *stock* ornament lumped in c eliminated to suit a fixed sum availabl and externally, a wide opening, with c without a valance, larded all over wit ferocious posters of petrified film in cidents enlarged and coloured. Whe will film salesmen acknowledge that fil art and poster art are totally differen things ?

The very finest theatres in America hav harked back to a kind of Pompeiia Adam motive for their internal details very tasteful, well modelled and wel designed, particularly those designed b Mr. Crane, of Detroit, and Mr. Lamb, o New York.

The theatre internally needs very special powers of design; no preconceived ideas of symmetrical elevations are o any value. The design must build up from the plan and in visual effect concentrate on the proscenium opening, then gradually be reduced in value backwards. A symmetrical ceiling, circular or square, is nearly always an impossibility, and besides, can never be seen except, perhaps, from a few seats at the rear of the balcony Likewise the flanking walls, cut up as they are by sloping floors and balconies, provide only, as a rule, a comparatively small space near the proscenium, where any unrestricted wall space is available. These may be treated in a large way as a return and support to the proscenium, but the rest of the rear spaces are best left as a foil to the richness concentrated around the focal point, the *Proscenium*. Externally the special character of the picture house is now recognised by its mass of posters, and artistically oscillates between the extreme of badness and a type of classical purity equally unresponsive to the use of the building.

And no doubt before long, as the process of evolution progresses, the picture theatre will be a thing of beauty, and equal in standing to anything designed for other purposes.



AUDITORIUM OF ORCHESTRA HALL, DETROIT, MICH.

Discussion

In the discussion which followed, Mr. George Hubbard, F.R.I.B.A., took the chair.

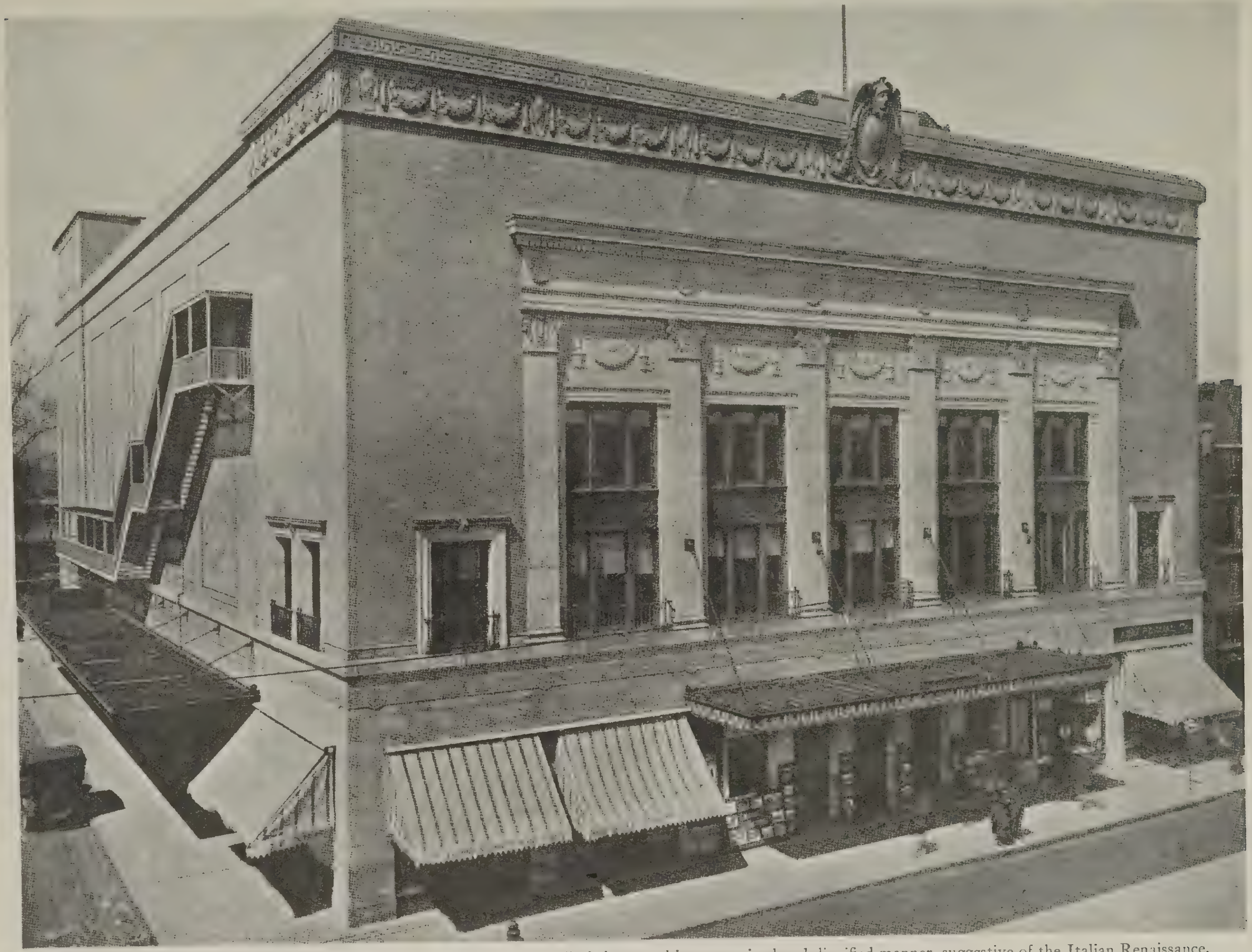
Mr. Newbould, M.P., a director of cinemas, moving the vote of thanks to Mr. Atkinson, said that during the last seven years America had made rapid strides in cinema construction, whilst in this country it had been practically at a standstill. He did not agree that prior to the war we had been so behind, and he was sure that now we were once more giving attention to cinema theatre building we should catch up. The one now being erected at Brighton, to the designs of Mr. Atkinson, would equal the best American.

Major Grierson said that the Brighton Cinema Theatre would be opened in July, and he had no doubt that everybody would agree that England again led the world.

Mr. Walter Bayes, who has been engaged on mural paintings in the Brighton Cinema Theatre, said that he thought the designing of the picture theatre should bring the artist into closer relation with the architect. Here was a building in the design of which both should work together. An audience that had looked all the

Modern American Architecture. 22.—Orchestra Hall, Detroit, Mich.

C. Howard Crane, Architect, associated with Elmer George Kiehler



This building provides accommodation for 2,200 persons. Architecturally it is treated in a restrained and dignified manner, suggestive of the Italian Renaissance. The external escape staircase at the side of the building is an unpleasant feature of the design, but it enables the site to be completely utilized for building.

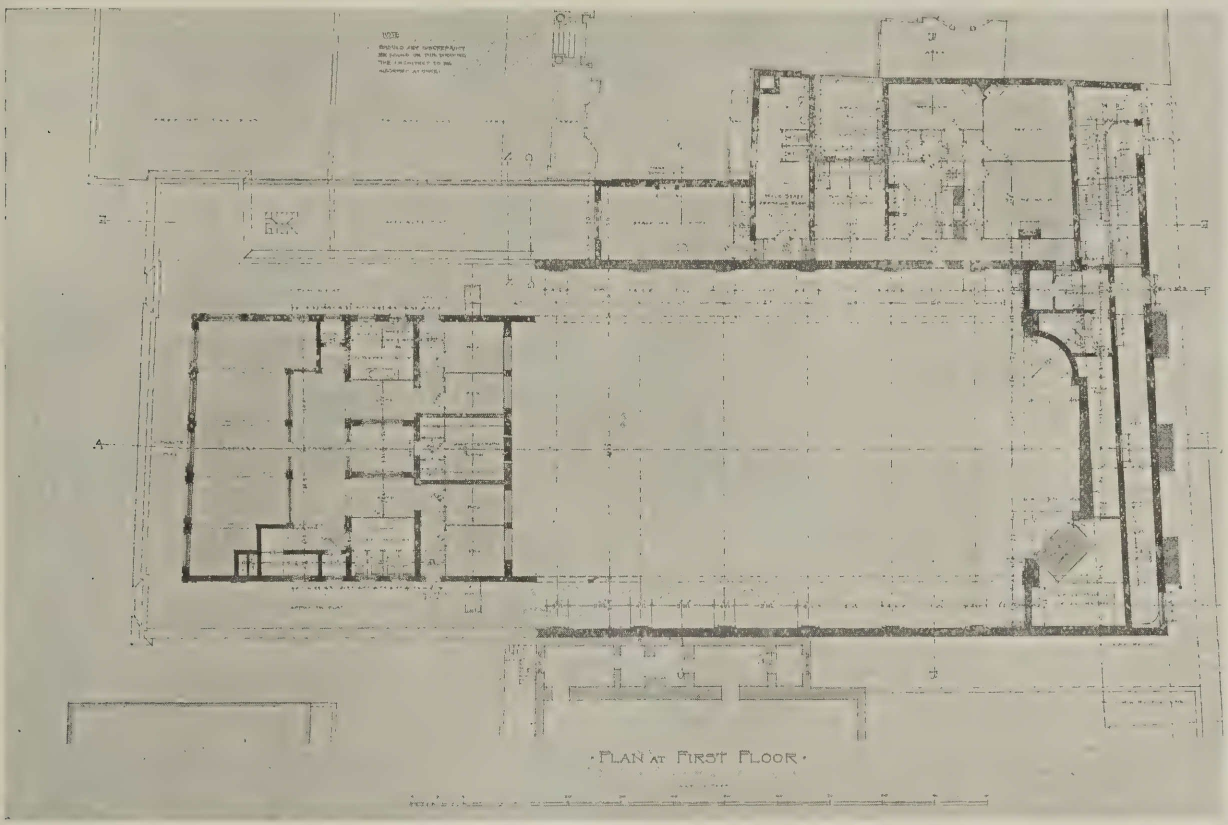
evening at moving pictures turned with relief to the walls where they could find pictures which kept still. In very justice, too, said Mr. Bayes, humorously, the cinema theatre should give some return to the artist, for they had been the means by which the word "picture" no longer meant a painting, but "the movies."

Mr. Max Clarke, F.R.I.B.A., referred reminiscently to his younger days, which had been spent designing theatres. He had made most of the drawings for the present Haymarket Theatre.

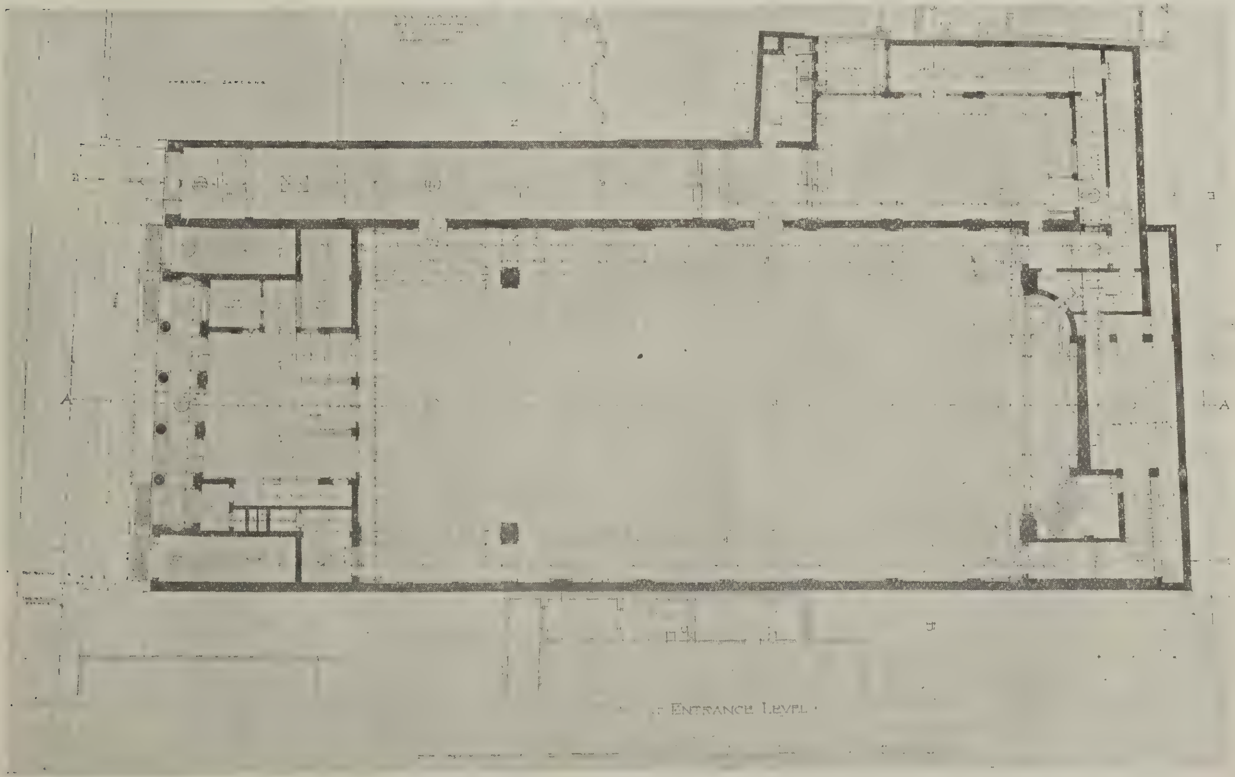
Mr. Frederick Chatterton, F.R.I.B.A., asked what were the precise causes which had led to the abandonment of back projection.

Major Grierson replied to this, and explained that for effective projection from the back of the screen the ray should, to prevent distortion, be thrown from a distance of about fifty feet, and that meant so much waste space at the back of the screen. Where the picture was projected from the front, the space was, of course, seated. Another objection was the loss of clearness in the pictures.

Mr. Atkinson briefly replied to the vote of thanks accorded him.



·PLAN AT FIRST FLOOR·



· ENTRANCE LEVEL ·

PLANS OF THE PAVILION CINEMA THEATRE, MARBLE ARCH, LONDON.
FRANK T. VERITY, F.R.I.B.A., ARCHITECT.

Post-War Church Building

Sir Charles Nicholson, Bart., M.A., gave the fourth of the series of six Thursday afternoon lectures at the R.I.B.A. last week, taking as his subject "Post-War Churches." Bishop Mounsey occupied the chair.

Sir Charles said that the greatest difficulty post-war church builders had to solve was the high cost of building, though he thought that things would right themselves if there were no State interference. He gave figures "which spoke for themselves," pointing out the difference in the cost of building before and since the war.

Vastly to the credit of the clergy of this country they had not yet succumbed to the bait so temptingly dangled before them of new methods of construction, which, professedly cheaper than the old methods, had never been proved better nor even as good. He defined architecture as the art of building economically.

There were three great characteristics of the mediæval work which the modern builders would do well to copy. The first was knowledge of materials, the second was a knowledge of construction from the engineering standpoint, and the third attention to detail, which was shown in the old building accounts which were still in existence.

He thought late English Gothic the most economic form of construction, and if a church committee found themselves with insufficient funds to carry out at once the whole of the work, he recommended that only part of it be proceeded with, and the rest be temporarily carried out. Temporary buildings need not be hideous, especially if there were no attempt at ornamentation.

Fortunately the dignity of a building depended more upon good proportion than upon mere size and ornamentation. Good proportions were a matter of brain, whilst the others could be obtained only for pounds, shillings, and pence.

It was by possessing such knowledge that the problem of building post-war churches would best be solved. A boom in church building was not likely to occur for some time, but, Sir Charles concluded, it would be a bad day for England if there came a slump.

Mr. H. H. Statham, F.R.I.B.A., moved a vote of thanks to Sir Charles Nicholson, and this was seconded by Major Corlette.

The chairman expressed, on behalf of the audience, their gratitude for a lecture not only useful, but interesting, and regretted there were so few of the clergy present there that afternoon.

Correspondence

Architects and ex-Service Students

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Arrangements were made in 1920 to place in offices ex-Service men training as architects for a portion of the long vacation to give them office experience. The scheme proved so successful that it is proposed to put it into force again this year. I should therefore be glad to hear from any architects who would take one or more of such men during the months of August and September.

T. P. BENNETT,

Head of the Department of Architectural Surveying and Building,
Northern Polytechnic Institute.

Water Colours at Tothill Street

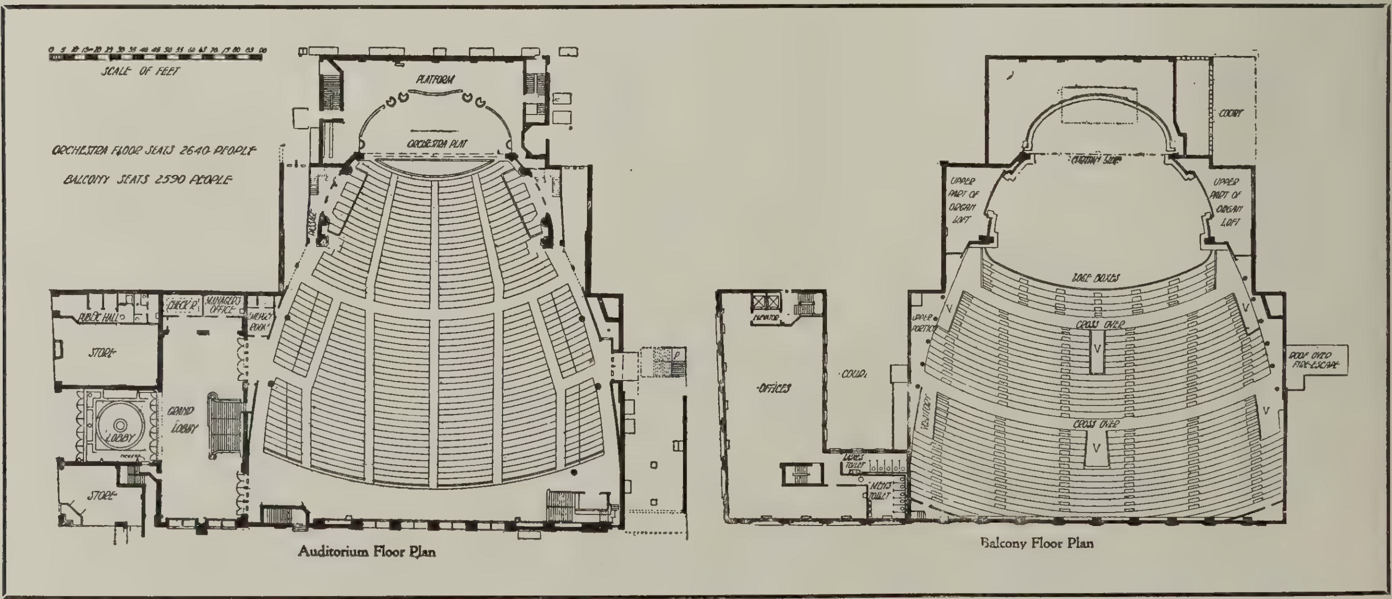
The delightful water-colours by Mr. A. C. Conrade, now on view at 29 Tothill Street, are giving keen delight to numerous visitors. The churches and cathedrals of old Continental and English towns have obviously a peculiar fascination for the artist, and the exquisite delicacy of his detail work is not the least of its attractions.

Pavilion Cinema Theatre

The illustrations on pp. 673, 675, 679, and 682–3, show the new hall which has been erected on the site of Camelford House, Marble Arch, from the designs of Mr. Frank T. Verity, F.R.I.B.A. The exterior has been treated on academic lines, the loggia forming the central feature of the entrance front, the side exit pavilion being the respond to the block of flats now erected at the corner of Oxford Street and Park Lane. From the loggia one passes into a spacious crush hall, with box-office, cloakroom, and staircase to first floor.

The hall itself, accommodating 1,200 persons (in addition to six private boxes), has been designed in a simple, dignified classic style, the rose du Barry carpet and seats giving the keynote to the colour-scheme. A large tea-room is provided at the south-east corner of the building adjoining the side exit corridor of the hall. The operating chamber is placed on the first floor over the north end of the hall, with three private boxes on each side, and is approached through an area which separates it from the suite of offices and lavatories. The hall is ventilated by means of fresh-air inlets discharging into the hall through grilles fixed under the wall panels, the foul air being extracted into a trunk carried along the roof and connected with an extract fan over the south end of the hall. Electric-lighting plant has been installed in the basement, which provides a two-circuit system throughout the building.

The general contractors were Messrs. Davis Bros., of 234 Bishopsgate, E.C. The stonework was executed by Mr. C. W. Courtenay; the ventilation by Messrs. Keith, Blackman, of 27 Farringdon Avenue, E.C. The plaster decoration and decorative painting were the work of Messrs. Davis Bros. The grilles to the entrance doors were supplied by Messrs. Peyton and Peyton. The seating arrangements were carried out by Messrs. H. Lazarus and Son, of 21 Great Eastern Street, E.C. The carpets and hangings were supplied by Messrs. Warings, of Oxford Street, W., and the electric-light installation was executed by Mr. Basil Davis.



Auditorium Floor Plan

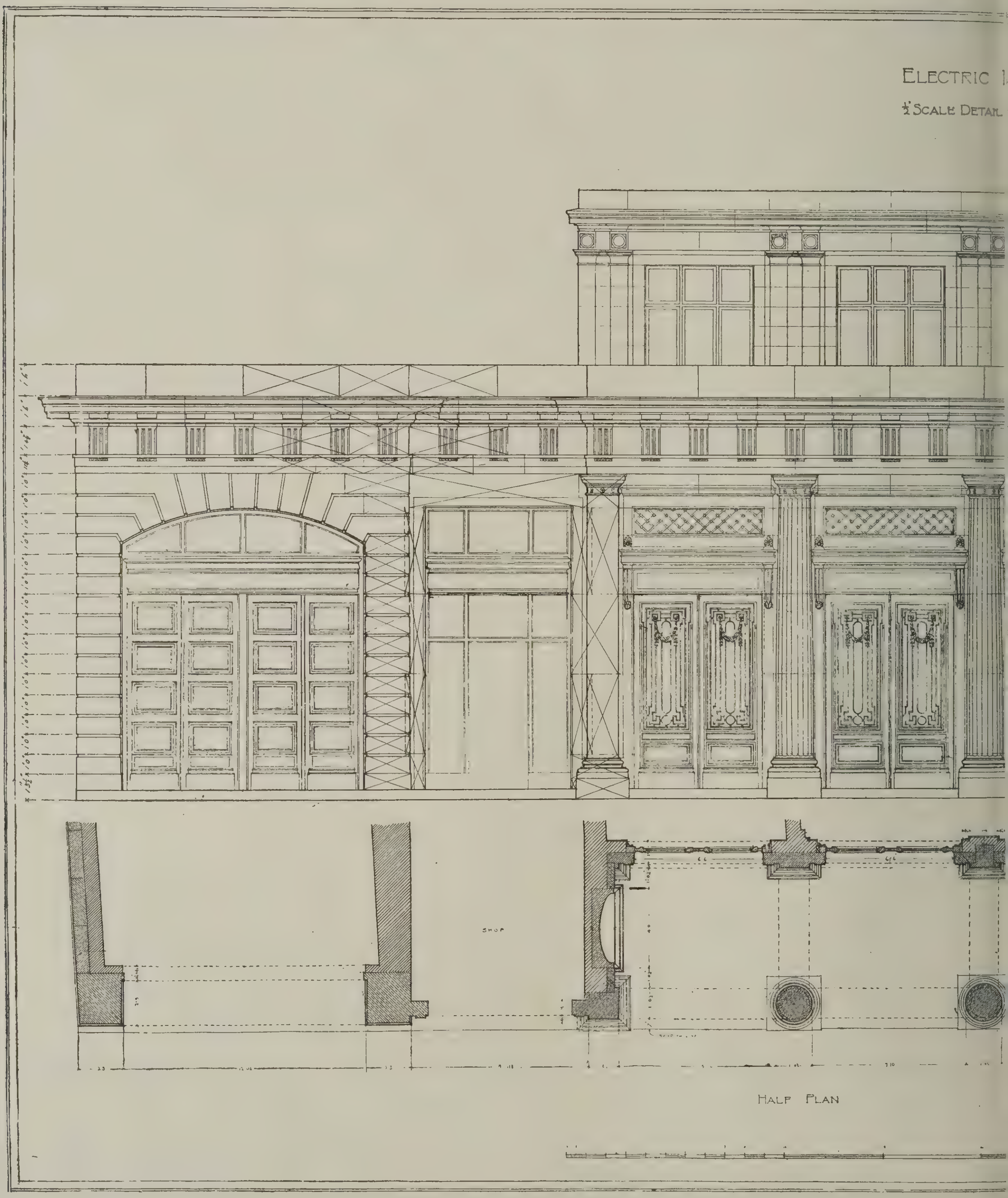
Balcony Floor Plan

PLANS OF THE CAPITOL THEATRE, NEW YORK. THOMAS W. LAMB, ARCHITECT.

(*See Mr. Robert Atkinson's Lecture on "The Design of the Picture Theatre," page 675.*)

Architects' Working Drawings. 37.—The Pavilion Ciner

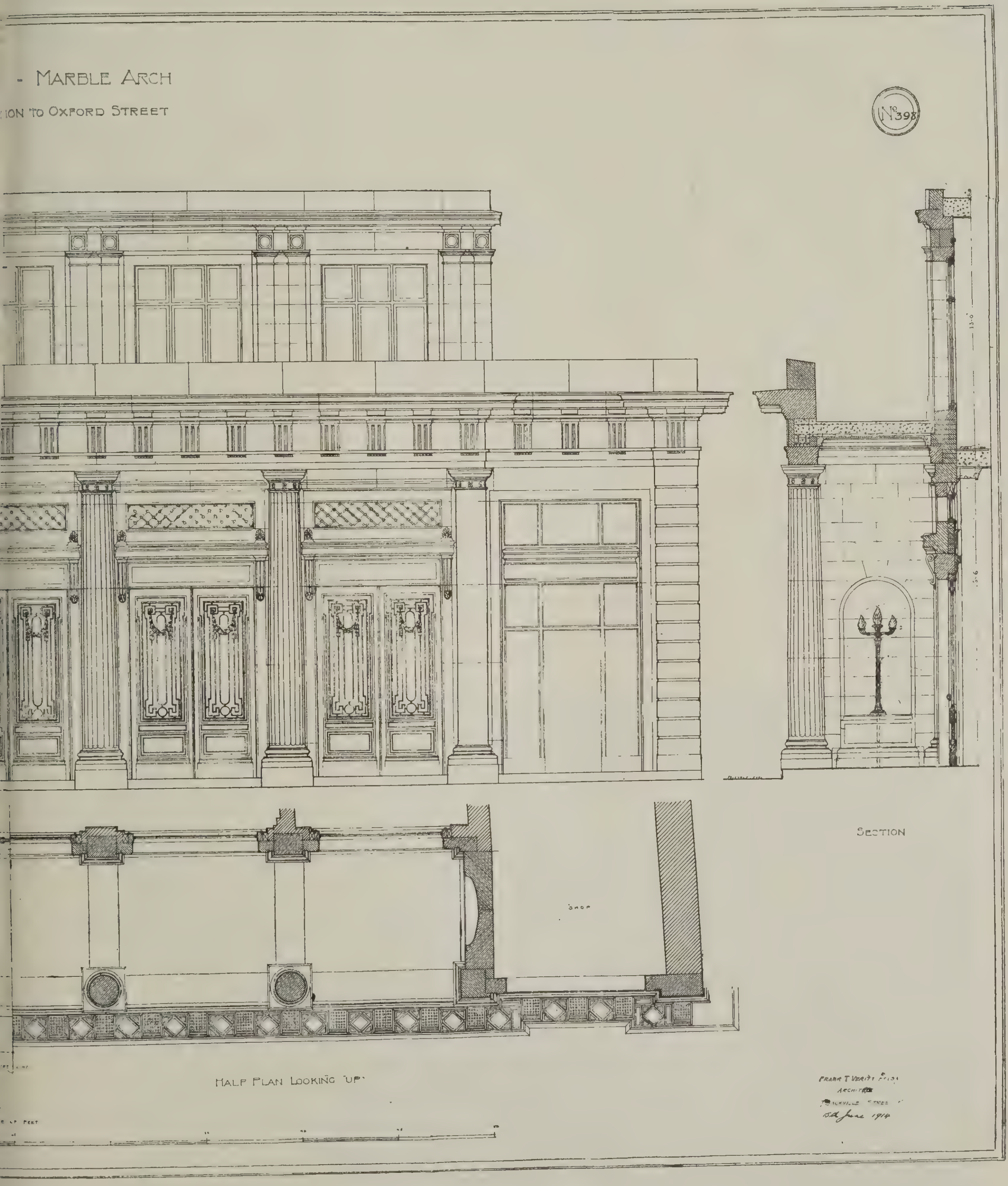
Frank T. Verit



Externally, this theatre has been designed on academic lines, the loggia forming the central feature of the entrance fro
The hall itself accommodates 1,200

eatre, Marble Arch, London : Elevation to Oxford Street

.B.A., Architect.



e side exit pavilion forms the respond to the block of flats now completed at the corner of Oxford Street and Park Lane.
, and in addition there are six private boxes.

Sir Reginald Blomfield's History of French Architecture

SIR REGINALD BLOMFIELD is much to be congratulated on the long-looked-for appearance of the second portion of his history of French Renaissance Architecture, and all lovers of the subject will rejoice to follow his guidance through a period to which he has devoted so much study, and which appeals in a peculiar degree to his sympathies. They will find in these pages an ample harvest of information on many aspects of architectural activity, as well as much sound and stimulating criticism. For, as may be expected of our author, he does not confine himself within the narrow circle of the bare facts, but constantly brings them into relation with the wider problems of architecture in all ages, and often uses them to point morals salutary for present-day practice.

When the curtain rises the great Mansart had shot his bolt. His principal triumphs were behind him. His independence of character and his uncompromising conception of duty towards his art precluded him from participation in the great works soon to be undertaken by the Court and the Administration.

These fell to the lot of men in many cases of considerable talent, but not endowed with Mansart's genius.

It was the moment when the leadership in the arts which for two hundred years had been the acknowledged possession of Italy was passing to France. The long line of Italian designers and craftsmen whom France had invited to assist in her architectural development was drawing to its close. Bernini—in some ways one of the greatest of them—found French architecture a fully established graft on the vigorous native stock and no longer pliant to foreign authority. His visit, if not wholly without influence, resulted, so far as he was concerned, in a fiasco, and was the last of its kind.

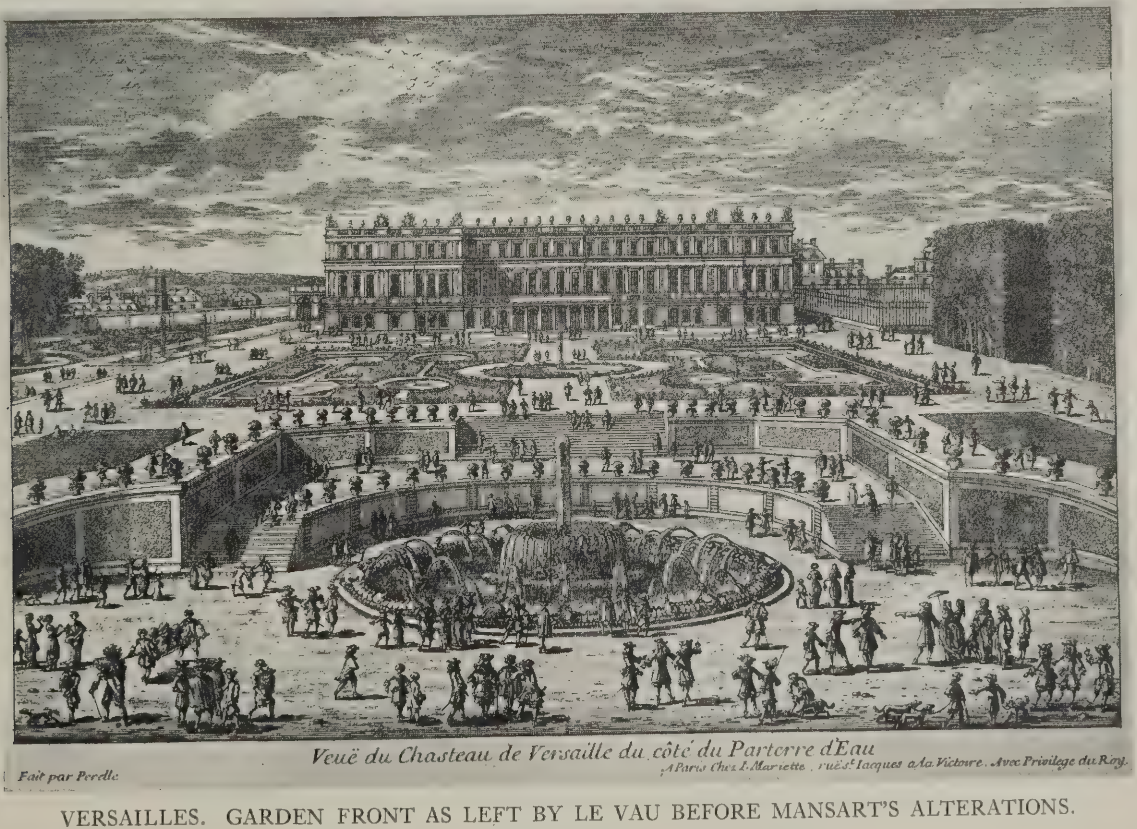
Henceforward it was at the feet of Paris rather than of Rome that the architecture of Europe from St. Petersburg to Madrid was to sit. The causes which led to this hegemony of France in the arts are fully illustrated in these volumes. The political preponderance of Louis XIV, the brilliance and magnificence of his court, which roused the ambition of German Princes and Dutch Stadtholders to vie with the glories of Versailles, were important contributory factors, but they could not have availed had there not been solid achievement at the centre of inspiration.

Architectural design had been brought to a high pitch of excellence under the reigns of Richelieu and Mazarin, and had culminated in the rare excellence of François Mansart. It was maintained at an almost unvaryingly high level for something like a century and a half, in large measure by the means devised by Colbert. To this clear-sighted and painstaking minister were due the elaborate organization of the Royal and Public Works Department, so ordered as to bring artistic design of every class into direct contact with production; the foundation of the Academy of Architecture to act both as a consulting body of experts on all technical matters, and as the director of education; and the School in Rome to provide the arts with a constant stream of well-equipped recruits.

The pages in which Sir Reginald traces in detail the formation and working of these institutions, their fluctuating fortunes, their successes and their failures, the degree in which they forwarded or retarded progress in architecture, are full of curious information not easily accessible hitherto to English readers.

One thing emerges with clearness, that till the approach of the Revolution France possessed not merely a sound and definite architectural tradition based on classical studies, yet admirably suited to national requirements which, through passing changes of fashion in detail, maintained itself on the level of a broad monumental conception of design allied with scientific construction, but also a vast body of architects, masters of the technical side of their profession, and thoroughly imbued with this tradition, without being in any way hampered thereby in their originality.

It must be recognized—however much one may admire individual achievements—that a rapid decline into anarchy marks subsequent performance. This Sir R. Blomfield rightly attributes in large measure to the disintegrating effects of the teaching of amateurs, such as Caylus and Quatremère de Quincy, who substituted pedantry for scholarship, and meticulous adherence to the details and


Veuë du Chasteau de Versaille du côté du Parterre d'Eau
A Paris Chez I. Mariette, rue St. Iacques a la Victoire. Avec Privilege du Roy.
Fait par Perelle.

VERSAILLES. GARDEN FRONT AS LEFT BY LE VAU BEFORE MANSART'S ALTERATIONS.
(*From "A History of French Architecture, 1661–1774."*)

practice of the Ancients for assimilation and adaptation to modern requirements. A minor cause of failure in modern French work he finds in the excessive stress laid upon the "rendering" of drawings to the neglect of the thing represented.

During the first years of Louis XIV's personal reign Le Vau, taken over with Le Brun and Le Nôtre from the employ of the disgraced Fouquet, fills the centre of the scene with very inadequate powers. "He often seems to have been uncertain what to do next. He did not possess the happy instinct that jumps to the right thing. His technique was not adequate to supplying his want of invention." This criticism is certainly just. But Sir Reginald perhaps unduly strengthens the charge against Le Vau by ignoring such merits as he has. In his description, for instance, of the famous Hôtel Lambert de Thorigny in the Ile St. Louis, he does not refer to its best feature, the great staircase; while the remark on his remodelling of Versailles, that the design "was one of the best he ever made," is the only allusion to it. Again, it is doubtful whether the charge of vandalism in destroying Lescot's work at the Louvre, including the Pavillon du Roi, can be maintained; for in his design for the south front, reproduced on Plate VIII, not only does that pavilion appears unaltered, but it is repeated at the other end of the façade.

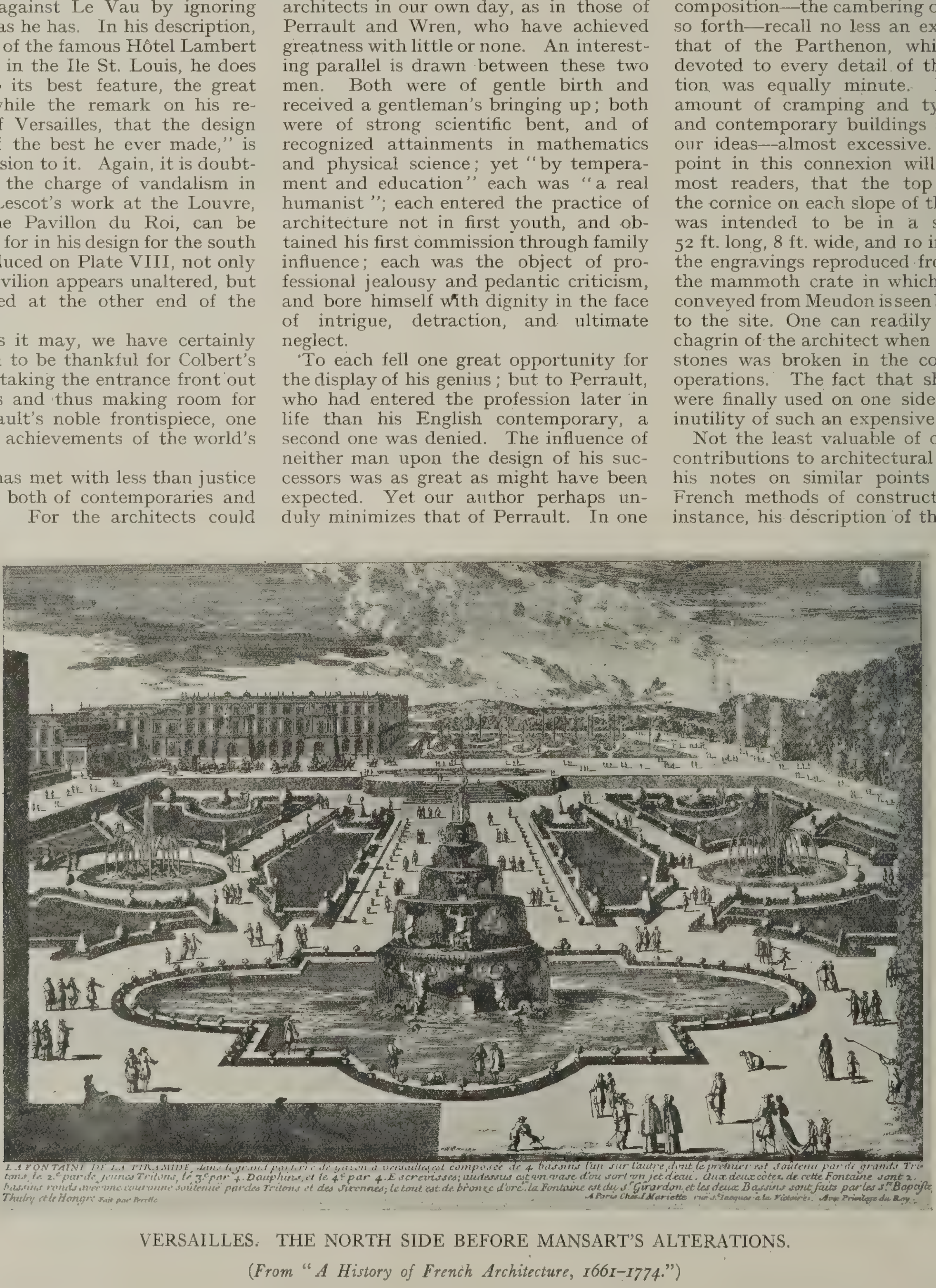
Be this as it may, we have certainly much reason to be thankful for Colbert's initiative in taking the entrance front out of his hands and thus making room for Claude Perrault's noble frontispiece, one of the great achievements of the world's architecture.

Perrault has met with less than justice at the hands both of contemporaries and of posterity. For the architects could not forgive what they regarded as the intrusion of an outsider into their ranks, nor the pedants his refusal to admit the universal application of their canons. When his coupled Order was attacked on the ground that it was a Gothic device, he boldly replied he would not reject a good thing merely because it was mediæval. Our author—who cannot be accused of undue tenderness for amateurs—places Perrault on the eminence which is due. Indeed, in spite of his non-professional training, he was no amateur, but one of those rarer spirits who can dispense with the beaten road indispensable to the average man, and spring straight to the goal. The amount or the character of the training a man receives is of no moment provided the result is good. There are architects in our own day, as in those of Perrault and Wren, who have achieved greatness with little or none. An interesting parallel is drawn between these two men. Both were of gentle birth and received a gentleman's bringing up; both were of strong scientific bent, and of recognized attainments in mathematics and physical science; yet "by temperament and education" each was "a real humanist"; each entered the practice of architecture not in first youth, and obtained his first commission through family influence; each was the object of professional jealousy and pedantic criticism, and bore himself with dignity in the face of intrigue, detraction, and ultimate neglect.

To each fell one great opportunity for the display of his genius; but to Perrault, who had entered the profession later in life than his English contemporary, a second one was denied. The influence of neither man upon the design of his successors was as great as might have been expected. Yet our author perhaps unduly minimizes that of Perrault. In one passage he seems inclined to limit it to the garlanded oval plaques he introduced on the Louvre—a feature which, as a matter of fact, he did not invent, but borrowed from Lescot's elevation in the court. But even the subsequent admission that Gabriel's façades in the Place de la Concorde owe something to the Louvre—no slight influence in itself—is short of the mark, for one cannot study the public architecture of France from Perrault's day to the Revolution without constantly encountering his "ordonnance" in some form or other, e.g. in the Hôtels de Ville of Nancy and Toulouse, the Places Vendôme and des Victoires, the buildings on the quay at Bordeaux, and many unexecuted competition designs.

The refinements of design in this composition—the cambering of lintels and so forth—recall no less an example than that of the Parthenon, while the care devoted to every detail of the construction was equally minute. Indeed, the amount of cramping and tying in this and contemporary buildings appears—to our ideas—almost excessive. A curious point in this connexion will be new to most readers, that the top member of the cornice on each slope of the pediment was intended to be in a single stone 52 ft. long, 8 ft. wide, and 10 in. thick. In the engravings reproduced from Le Clerc the mammoth crate in which these were conveyed from Meudon is seen being hauled to the site. One can readily imagine the chagrin of the architect when one of these stones was broken in the course of the operations. The fact that short lengths were finally used on one side proves the inutility of such an expensive precaution.

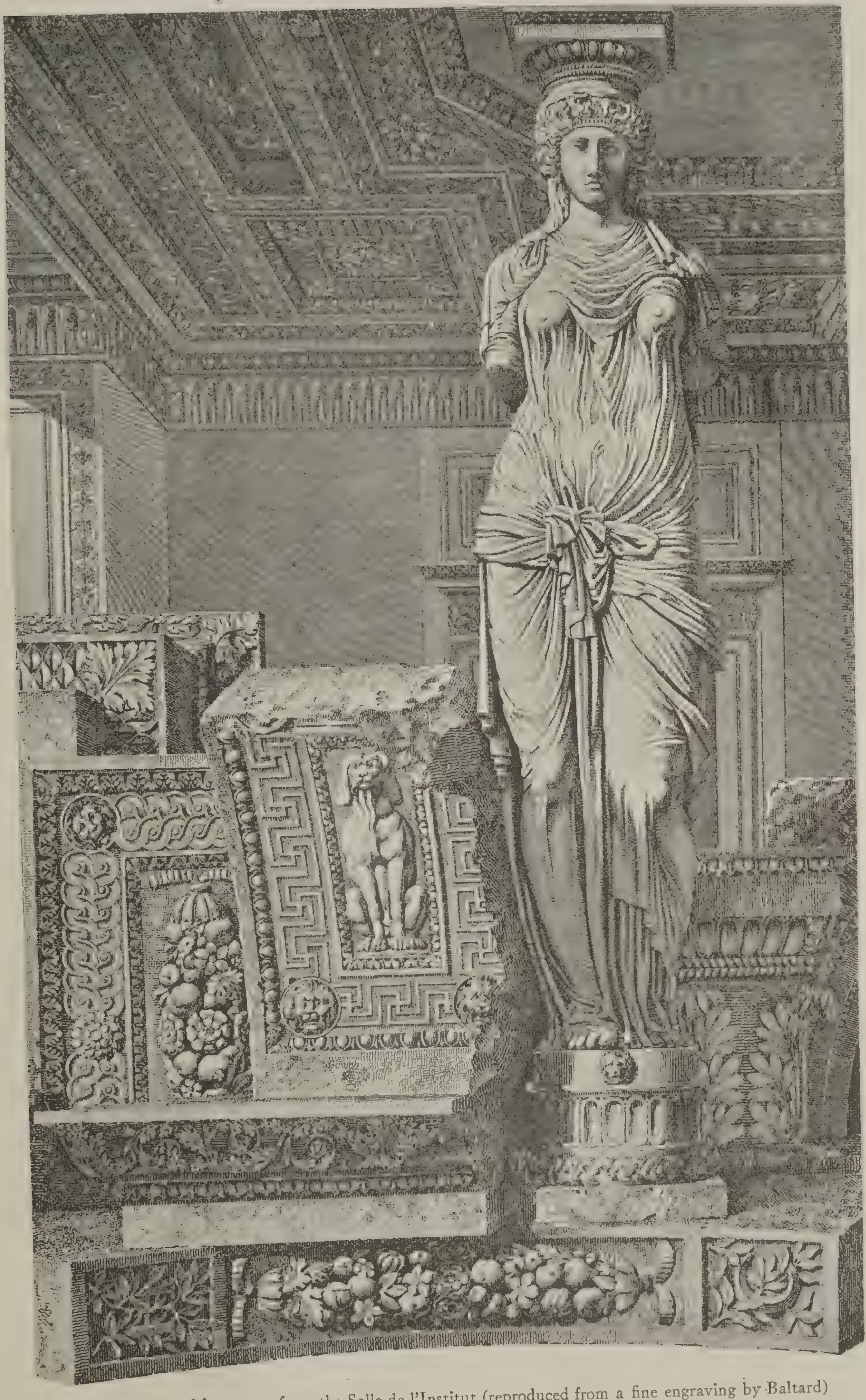
Not the least valuable of our author's contributions to architectural studies are his notes on similar points illustrating French methods of construction, as, for instance, his description of the system of


LA FONTAINE DE LA PIRAMIDE, dans le grand parterre de gazon a versailles, est composée de 4 bassins l'un sur l'autre, dont le premier est Soutenu par de grands Tritons, le 2.e par de jeunes Tritons, le 3.e par 4. Dauphins, et le 4.e par 4. Escrevisses; audessus est vn vase d'ou sort vn jet d'eau. aux deux côtez de cette Fontaine sont 2. bassins ronds avec vne couronne soûtenuë par des Tritons et des Sirennes; le tout est de bronze d'oré. la Fontaine est du S.r Girardon, et les deux Bassins sont faits par les S.rs Baptiste, Thuby et le Hongre
Fait par Perelle
A Paris Chez I Mariette rue S.t Iacques à la Victoire. Avec Privilege du Roy.

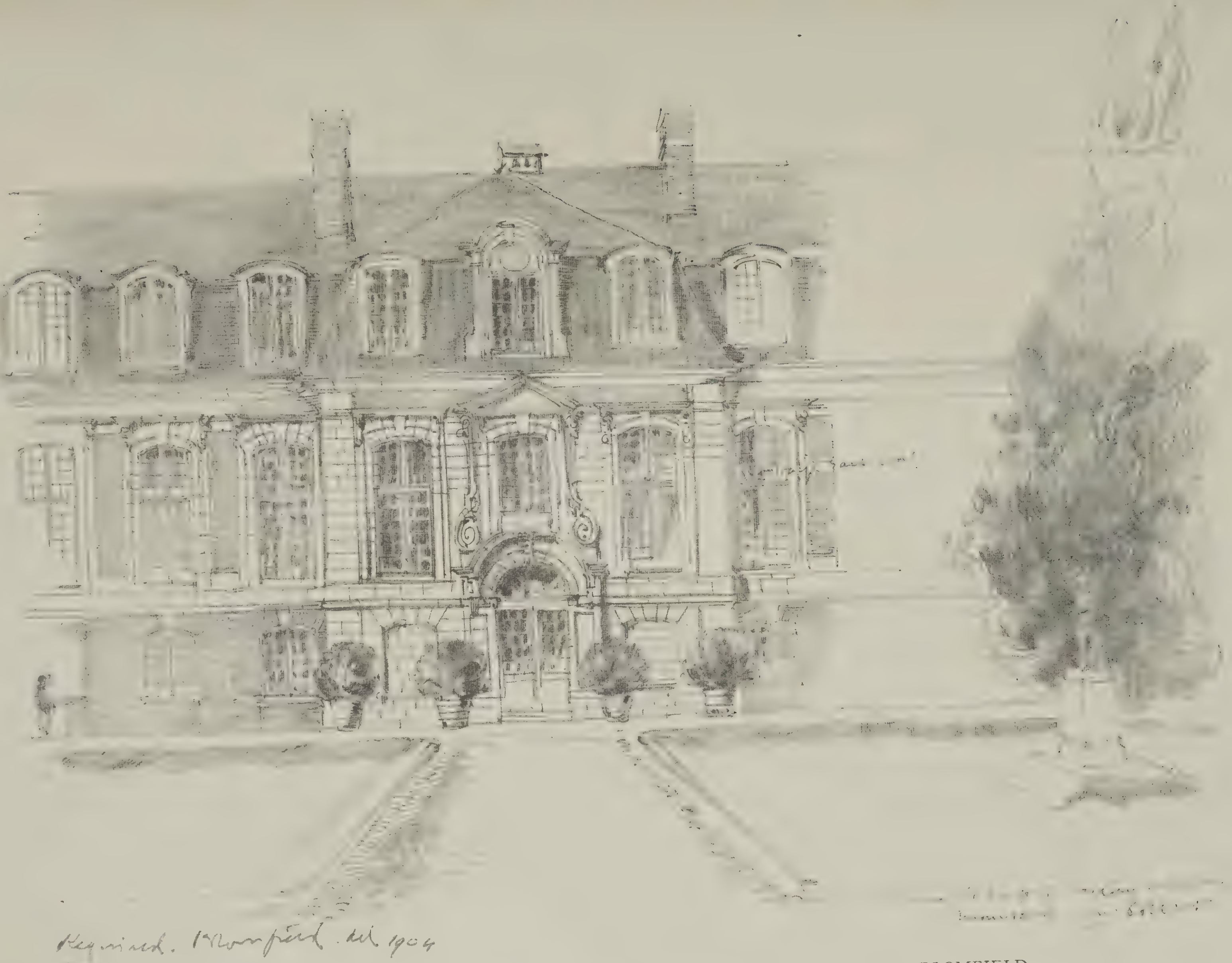
VERSAILLES. THE NORTH SIDE BEFORE MANSART'S ALTERATIONS.

(*From "A History of French Architecture, 1661–1774."*)

Architectural Details. 8.—From the Salle de l'Institut, Paris



This collection of fragments from the Salle de l'Institut (reproduced from a fine engraving by Baltard) offers a number of delightful architectural motifs suitable for exploitation by the modern designer.



THE CARPET FACTORY, ABBEVILLE. FROM A DRAWING BY REGINALD BLOMFIELD.

(From "A History of French Architecture, 1661–1774.")

vaulting without buttresses, and those on the improvements in planning introduced from time to time throughout the period. He more than once refers to the inconvenience of placing the kitchens at a great distance from the dining-room, to isolate it from the noise and smells. The vast array of servants and a system of hot boxes must have somewhat mitigated the inconvenience, but neither would ensure the serving of such dishes as omelettes and soufflés *à point*, and one is driven to suppose that unless the gourmets of the period were content to consume them of a leathery consistency they must have been whipped up on chafing dishes in the room itself.

The crowding of horses in the stables, also more than once alluded to, will appear, it may be pointed out, a trifle less, if it be borne in mind that the French "toise" and foot are nearer respectively to 6 ft. 6 in. and 13 in. (English) than to the 6 ft. and 12 in. respectively at which the author reckons them.

Space forbids to follow Sir R. Blomfield into the many attractive regions which he explores, a few of which have been indicated. Much that he tells us of the architecture of the eighteenth century—so extraordinarily accomplished even in the hands of now little known or wholly forgotten architects—will be a revelation to those who have slipped into the comfortable generalization that the last of the Gabriels was responsible for it all.

Our last pleasure remains to us to express a word of admiration for the excellent illustrations partly contributed by the author from his own sketch-books, partly drawn from the wealth of contemporary books on architecture and engraved views.

W. H. W.

A History of French Architecture from the death of Mazarin till the death of Louis XV (1661–1774). By Sir Reginald Blomfield, R.A., Litt.D., M.A., F.S.A. Two volumes. Price Four Guineas net. Published by Messrs. G. Bell & Sons, Ltd., York House, Portugal Street, London, W.C.2.

Ministry of Health and Air Pollution

The Minister of Health announces: "In view of the inquiries that have been received at the Ministry of Health recently, it is of interest that Lord Newton's Committee, who are inquiring into the present state of the law with regard to the pollution of the air by smoke and other noxious vapours, have nearly finished taking evidence, and are considering their Final Report.

"The Committee were originally appointed in 1914, but owing to the war their operations were suspended until January of last year. The Committee have examined a large number of winesses, and much valuable work has been accomplished. An Interim Report was issued in June of 1920, recommending various smokeless methods of domestic heating, having special regard to the new houses being built under the Government Housing Scheme. In consequence of this report a memorandum was sent to all local authorities by the Ministry of Health, drawing attention to the Committee's recommendations.

"The Minister attaches great importance from the point of view of public health to the work of Lord Newton's Committee, who are continuing their investigations."

Law Reports

Action by an Architect

Saunders v. Beadel.

King's Bench Division. Before Mr. Justice Greer.

This was an action by John Thomas Saunders, of Linden Gardens, Bayswater, architect and surveyor, against Maurice Beadel, of 9 Albert Road, Regent's Park, claiming £232 1*s.* 8*d.* for professional services rendered.

Mr. Charles, K.C., for the plaintiff, said the work done concerned the conversion of 9 Albert Road into three maisonnettes. By a letter of October 11, 1918, the defendant instructed plaintiff to inspect the premises and estimate the approximate cost of the conversion. Subsequently he was instructed to get the work done, and it was arranged that plaintiff should receive 7½ per cent. of the total cost, which was the customary professional charge.

The defence raised, said counsel, was that the defendant was only liable for £2,000 as the cost of conversion, and, therefore, was not liable for the full amount now claimed. It was the defendant's contention that he had imposed a limitation of £2,000, whereas the work actually cost £3,049, and there had been an action between the defendant and the builders, Messrs. Vare Bros., for the recovery of the unpaid balance. The referee had found that there was no limitation between the builders and Saunders, and gave an award in their favour. The referee had also held that the builders' charges were fair and reasonable, being a contract upon prime costs and 20 per cent. profits.

As a matter of fact, continued counsel, no limit had ever been imposed upon Saunders. What defendant did say was that plaintiff should see the builders and ask them to keep the costs down to about £2,000. The builders immediately pointed out that it was utterly and absolutely impossible. Beadel, moreover, was pressing Saunders to get the flats finished because he wanted to let them. Defendant must also have known that the £2,000 limit suggested was an impossible figure, since he knew from the vouchers sent in that in December, when one flat was completed, £1,315 had already been spent.

Plaintiff, in his evidence, said he became a Licentiate of the R.I.B.A. in 1912, and was elected a Fellow in 1920. He denied that any limit of £2,000 had ever been imposed upon him. He had been asked to give a rough estimate of what the total cost would be, and had given his estimate of £2,000 accordingly. When the work was entered upon it was discovered that the roof was leaking, and that had to be attended to at once.

In giving judgment, His Lordship said that it was suggested plaintiff could not have done more than he did. His Lordship thought that was not correct. He thought plaintiff might have had a weekly sketch of the labour and materials expended upon the job, so that he would be in a position to say how much more should be added to the cost of the work as it proceeded. In January plaintiff estimated the work could be done for £2,000, but if he had known the true facts he would have known that the work could not be completed for anything near that sum. His Lordship was satisfied that plaintiff should have kept defendant informed from time to time as to how the work was running into money, and for his breach of supervision he would disallow £100 on his claim. Having regard to the conditions of the trade at the time, his Lordship did not think the work could have done for much less than it actually cost.

There would be judgment for plaintiff on the claim for £132 and costs, and for defendant on the counterclaim for the nominal damages of 40*s.*, with costs, saving where the costs had been increased by issues on which defendant failed.

His Lordship added that there was no imputation either upon plaintiff's skill as an architect or upon his bona-fides.

Builder's Claim

Clements (Grays) Ltd. v. Sanders.

Official Referee's Court. Before Mr. G. A. Scott.

In this case the plaintiffs, who are builders and contractors, sought to recover from Mr. J. F. Sanders, of Palmerston Road, Westcliff-on-Sea, £455 for work done and materials supplied to the defendant's house at Westcliff-on-Sea. A peculiar feature of the case was that the plaintiff company changed their name from Jaggers (Grays) Ltd., and the defendant denied having given any orders for work to Clements, the transaction having, he said, been between himself and W. H. R. Jaggers. While denying liability to the plaintiffs, defendant disputed various items in the account. The work was done between July 1919 and January 1920. Mr. Sanders, carrying on business at Capel Road, Forest Hill, with a private address at Pitsea, gave evidence to the effect that all his dealings in respect to the work in question had been with Mr. Jaggers. He was, he said, never told, nor did he know, that the company would carry out the agreement. He regarded the whole transaction as a matter between himself and Mr. Jaggers.

The Official Referee, in delivering a reserved judgment, said that the plaintiff company was formerly known as Jaggers (Grays) Ltd., and it was alleged that defendant gave his orders for the work to that company, and that he had nothing to do with the plaintiff company. The plaintiffs said that the orders were given to them, but this was denied by the defendant, who said that he had given his orders to Mr. H. R. Jaggers in his personal capacity, and he consequently repudiated all claims made by the plaintiff company. He (the Official Referee) accepted the defendant's version of the transaction, and dismissed the action. As, however, he had been asked to decide the sum due for the work done, he said that he considered the account had been made out on a wholly wrong basis, as the work was to be done at prime cost. Therefore he fixed the total at £325, and said that if the defendant was willing to pay over that sum he would enter judgment for him with costs.

The defendant agreed to pay the amount into the account, and judgment was entered accordingly.

Stage Settings and Dresses

Although the exhibition now opened at he Architectural Association is small, and as nothing to remind one of Reinhardt, Baskt, or the Bibienas, it yet boasts of interesting drawings and models. The poupées" dresses by A. Rutherston, drawn by a knowing hand, are pleasant in their rchaic presentation; but with the further exception of Benda's for "The League of Notions" (indifferently drawn), and some of Sheridan's and Musgrave's, the dresses do not speak of excessively inspired minds. Rutherston is also responsible for the most sensitive and intellectual drop-curtain in the whole show: long and low n tone, it holds a fine hierarchy of quarried cliffs whose lithic appearance is mellowed by a skilful use of umbrella-shaped trees. This artist's fluency is never verbosity; he cares too much for truth to give us empty wind; he cares too little for style to utter mere confectionery. Some folk, however, may prefer Lovat Fraser's "A Prospect of Newgate." His models for "The Beggar's Opera" and "Nursing Rhymes Ballet" are of special cathartic value and the essence of studied simplicity: sober architectural interiors, underlined with a few cogent touches of colour. On the other hand, the models by Eric Howard are little more—or less?—than essays in artistic ineptitudes, making up with stereotyped stagilities what they lack in inventive gusto. How can a set of figures move at all effectively against such a meddlesome and full background? The same, it must be admitted, applies to two other models for "Maggie," by Marc. Henri, Rousin, and Laverdet, an ineffectual triumvirate; one can only surmise that the first-named gentleman had little to do with it, going by his own very fresh pointillist panels. There is an amusing "1st sketch for the Sneezing Charm," by Sheridan, which calls up memories of Max Klinger, when tried and found wanting. . . .

I cannot close without drawing attention to a very spirited monochrome sketch for the Chelsea Arts Prehistoric Ball, by L. H. Bucknell, who, in connexion with Augustus John, evolved a highly picturesque and successful "décor" to fill the Albert Hall; both as a water-colour and as a solution of such a problem, it gives the lie to the notion that architects are endowed with inadequate imagination.

G. Holt.

Publications Received

An Exhibition of Early Wooden Drinking Cups and other Wooden Utensils, May 23 to June 21, 1921. By Reginald Rigby. This little brochure contains some interesting details about early wooden vessels and utensils. The exhibition now being held at 20 Dover Street, Piccadilly, W., for its artistic interest, is the private collection of Mr. Owen Evan-Thomas.

"The Radio Review." A Monthly Record of Scientific Progress in Radio-telegraphy and Telephony, May 1921. Edited by Professor G. W. O. Howe, DSc., M.I.E.E. Assistant editor, Mr. Philip R. Coursey, B.Sc., A.M.I.E.E. Price 2s. 6d. net. The Wireless Press, Ltd., 12–13 Henrietta Street, Strand, W.C. 2.

Shades and Shadows. By David C. Lange, M.S., Instructor in Architecture in the Washington State College. Price 15s. net. Chapman and Hall, 11 Henrietta Street, Covent Garden, London, W.C. 2.

Housing Betterment, April 1921. A Journal of Housing Advance, issued quarterly by the National Housing Association, 105 East 22nd Street, New York City.

The Subject Index to Periodicals, 1917-1919. Fine Art and Archæology. Issued by the Library Association, Stapley House, 33 Bloomsbury Square, W.C. 1. Price 9s. net.

Concrete Institute Transactions and Notes. Vol. 9. Published by the Concrete Institute, Denison House, 296 Vauxhall Bridge Road, S.W. 1.

Housing and Town Planning

Since the declaration made in the House of Commons by the new Minister of Health to the effect that the building of 300,000 houses in England and Wales (as apart from Scotland) is regarded by the Government as the present limit of commitment under their housing proposals, an endeavour has been made by the National Housing and Town Planning Council to secure an estimate of the views of leaders in national and local life, whether as Members of Parliament, great business men, members of housing committees of local authorities, or leaders of working-class organizations, concerning the wisdom of the course thus proposed by the Government. It is found that the view generally held is that there should be no faltering of purpose and no slackening of energy in the task of sweeping the country clear of bad conditions, and, further, it is recognized that a demand for economy which passes beyond the bounds of wise effort to secure that houses shall be properly built at a reasonable cost, and asks for the curtailment of a great national policy, is one from which men and women of goodwill are bound to dissociate themselves.

Within the next seven or eight weeks (it is stated) no less than fifteen Conferences of Local Authorities will be held under the auspices of the National Council in various parts of the country to consider the present situation, and the future development of their housing and town-planning schemes. The centres at which these Conferences will be held include the following: Edinburgh (for Scotland), Norwich (for Norfolk and parts of Cambridge and Suffolk), Aylesbury (for Buckinghamshire), Rhyl (for North Wales), Carlisle (for Westmorland and Cumberland), Leeds (for Yorkshire), Manchester (for Lancashire and Cheshire), Nottingham (for the Eastern Midlands), Exeter (for West Devon), Truro (for Cornwall), Bristol (for the West of England), London (for Greater London), Birmingham (for the Western Midlands), Llandrindod Wells (for West and Mid-Wales, South Wales, and Monmouthshire), Newcastle-on-Tyne (for the North-East Coast). It is anticipated that the aggregate attendance at these Conferences will be upwards of 2,000 delegates, representing Local Authorities.

Building Surveyors' and Inspectors' Association

Mr. William J. Stone, M.R.S.I., of Bootle, chairman, in the course of his address to the first annual meeting held at Manchester of the Building Surveyors' and Inspectors' Association, said that the Association started more or less in a small way in August last, and by January they were fully established. The development of the Association could best be judged on a county borough basis of 50,000 population, its representation being equivalent to about ninety-three county boroughs. The Association was represented in the Mersey Side area, Manchester, Yorkshire, London, Potteries, and other districts, and in Ireland.

One could say a great deal with regard to the need for the Association, and it was surprising that some step was not taken earlier to consolidate the forces of the profession. The decision at the R.I.B.A. with regard to registration was an example of what was going on in the architectural profession. It should improve the status of the building surveyor when the status of the architect was raised. He did not see any reason why something should not be done to register builders.

They had in their Association the academic and practical man, and he knew of no reason why there should be conflict between them. There was a tendency, he was afraid, to overlook the value of the practical man. He thought that the practical man was better for the actual inspection and supervision of building work. One could not help but notice that many of these men were very highly qualified, and practically all of their members had some distinguishing qualifications appertaining to building work generally. The scope of their work could be gauged from the large volume of minutes of evidence regarding the inquiry into Building By-laws, which covered 357 pages of closely printed matter; 49 witnesses gave evidence on that occasion. The Public Health Act alone had about three hundred sections, and in one town the building surveyors and inspectors were responsible for carrying out about twenty-three enactments. The safety of the public depended largely upon the building surveyor, and the man who was conscientious carried considerable responsibility. That should be recognized by adequate salary and conditions of service.

He hoped that some steps would be taken to appoint a committee to go into the question of statutory recognition, and along with that the setting-up of an efficient standard of qualification. He saw no reason why they may not hope to get in touch with the London building surveyors, and that the Association may in time even link up and work with them.

After the discussion the meeting elected the officers for the ensuing year, and approved the revised scale of salaries on a population basis, which will be forwarded to the N.A.L.G.O. with a view to its presentation, along with others, to the National Whitley Council. The Association gave the necessary power for the appointment of committees with reference to the standard of qualification and the preparation of a case for statutory recognition.

The Week's News

Manchester Housing Progress.

In Manchester 750 houses are in course of erection, and 210 are now occupied.

Chislehurst Housing.

The U.D.C. has received the sanction of the Ministry of Health to a loan of £3,900 for housing purposes.

Wilts County Offices.

The Wilts County Council have decided to purchase Polebarn House, Trowbridge, for £2,000, and to spend £750 upon alteration and adaptation as offices.

Berwick Housing.

The Eastbourne U.D.C. has decided to erect sixteen houses at Berwick and Alceston, and has instructed the architect to prepare the necessary plans.

Edmonton Housing.

Owing to the cost, it is reported from Edmonton that the local scheme for building 1,700 houses may be closed down by the Government next month.

The Late Mr. Thomas Muirhead.

We regret to announce the death of Mr. Thomas Muirhead, A.R.I.B.A., of Manchester. Among his best-known works are the cricket pavilions at Kennington Oval and Old Trafford.

Southend and the Housing Subsidy.

Southend Corporation Housing Committee recommend that the Government building subsidy should only be granted to persons building houses for their own occupation or for letting.

Cost of Housing.

The cost of building has dropped about twenty per cent., and the Ministry of Health will no longer sanction tenders for houses built by local authorities at a cost exceeding £800 per house.

New Cinema for Birmingham.

Mr. A. J. Eccles has applied successfully for a licence for a proposed cinema at Gosta Green. It will be designed to seat 1,500 people, and will be of the latest and most improved type.

Rugby's Big Housing Scheme.

Rugby U.D.C. have decided to accept the tender of Messrs. Moss, Loughborough, for the erection of 198 houses on the Eastlands estate at a cost of £172,958.

Ainsdale Housing Scheme.

Southport Corporation are advertising for tenders for the erection of sixteen houses on the Ainsdale housing site. The total number to be built is sixty-two, twenty-four of which are in hand by the Unit Construction Company.

Thorne Rural Housing.

It was reported at Thorne Rural District Council that good progress was being made with the housing schemes at the adjoining colliery village of Hatfield. Mr South, representing the contractors, said many thousand bricks per day were now being used. They had men in their employ who laid from 800 to 900 bricks daily; and they had some who laid as many as 1,000 daily.

New Cinema for East Ham.

The Mayor of East Ham has opened the New Super Coronation Cinema at Manor Park. Erected at a cost of £100,000, the building has been provided with the most up-to-date appliances, and seats 2,000 patrons.

Stone Cottages for Aberdeenshire

For the erection of cottages at Kingseat Mental Hospital, Aberdeenshire, the Scottish Board of Health have suggested stone and lime, and the architects, Messrs. Gall and Hay, are preparing specifications accordingly.

Norwich Architects' Assistants.

Several members of the A.S.A.P.U. and friends have recently spent an afternoon in inspecting the Catholic Church of St. John and the adjoining rectory. The students expressed their deep appreciation of Canon Drake's kindness in arranging and conducting the visit.

Hampton War Memorial.

The War Memorial Committee has decided to make a start with the scheme for the erection of cottages for ex-Service men on land at Oldfield Road. The general lay-out plan of the site has been approved, and tenders are to be invited for the erection of three bungalows.

New Theatre at Bridlington.

A new theatre and café has been built at Bridlington, and is claimed to be the most commodious on the East Coast. It is capable of seating 1,260, and is fitted with tip-up chairs from front to back. The stage is fitted with all the latest electric lighting effects, the curtain and cloths being very beautiful.

Peterborough Cathedral Restoration.

In connexion with the restoration of Peterborough Cathedral, it has been decided to undertake now the repair of the roof of the south aisle of the nave (which requires complete renovation), at an estimated cost of £2,100; £7,000 has been received or promised towards the £30,000 required for the complete restoration of the Cathedral.

Victoria and Albert Museum.

The Library and the Students' Room of the Department of Engraving Illustration and Design (Room 71) now closes on Mondays, Thursdays, and Saturdays at 9 p.m., instead of 10 p.m. On Sundays the Museum will be open until 6 p.m., instead of 5.30 p.m., as at present; the closing bell will ring at 5.50 p.m. The hour of closing on weekdays will remain as at present, 5 p.m.

War Memorial at Wallingford.

Mr. Herbert Benyon, Lord Lieutenant of Berkshire, has unveiled at Wallingford, Berkshire, the war memorial erected by the town. Wallingford is the oldest borough in the United Kingdom, its Charter being granted by Henry II in 1155, three years before that of the City of London. The memorial stands in the Market Place immediately in front of the old Town Hall, and takes the form of a square stone shaft raised on steps, with the dedicatory inscription and the names of the fallen on bronze panels on the sides. The memorial is surmounted by a beautifully modelled figure, in bronze, of Peace, holding in one hand a wreath of bay-leaves, and in the other a Scroll of Honour, the whole standing, to the top of the figure, some sixteen or eighteen feet. The memorial was designed by Mr. Guy Dawber, and the figure and panels modelled and cast by Mr. George Alexander, of Chelsea, whilst the whole of the stonework and the erection of the memorial was executed by Messrs. Honeybone and Sons, of St. Martin's Street, Wallingford.

The Dome of St. Paul's.

The experiment of plumbing the dome of St. Paul's has just been carried out with an apparatus specially constructed for the purpose, after an interval of more than eight years, and the results were very reassuring. The plans on which the cathedral architect, Mr. Mervyn Macartney, B.A. (Oxon), F.S.A., F.R.I.B.A., is working have been carefully examined and highly commended by the Society for the Protection of Ancient Buildings.

Wages in the Building Trade.

A memorandum, No. 50, has been issued by the Ministry of Health calling the attention of local authorities to the interim award of the National Wages and Conditions Council for the Building Industry. The Ministry urge that steps should be taken by local authorities to obtain any reductions in respect of contracts for housing which may become due in consequence of the award. The text of the award was published in THE ARCHITECTS' JOURNAL for May 18.

Latest List of New Inventions

Latest Patent Applications.

13435.—Alwyn, L.—Buildings. May 12.

13236.—Barnes, A.H.—Method of building in concrete blocks. May 10.

Specifications Published.

162714.—Heygate, E.C.—Movable bungalow on wheels.

162726.—Ashworth, R.—Moulded cement block, brick, or slab, for constructional or building purposes.

162784.—Moss, H. B., Knowles, T., Knowles, F. H.—Construction of buildings.

162866.—Willdig, H., and Wood, J. W.—Process for finishing moulded concrete blocks, bricks, or like articles.

Abstract Published.

160867.—Casting buildings in situ.—Evans, L. P., The Grove, Swanwick, Alfreton, Derbyshire.—In shuttering of the kind in which the narrow edges of the boards are placed upon each other and in which each shutter is provided with an outer metal strap reaching nearly to its bottom and with its upper end projecting above the top edge of the board, the projecting ends are reduced in diameter or rounded, and receive the connecting wires or strips for opposed shutters.

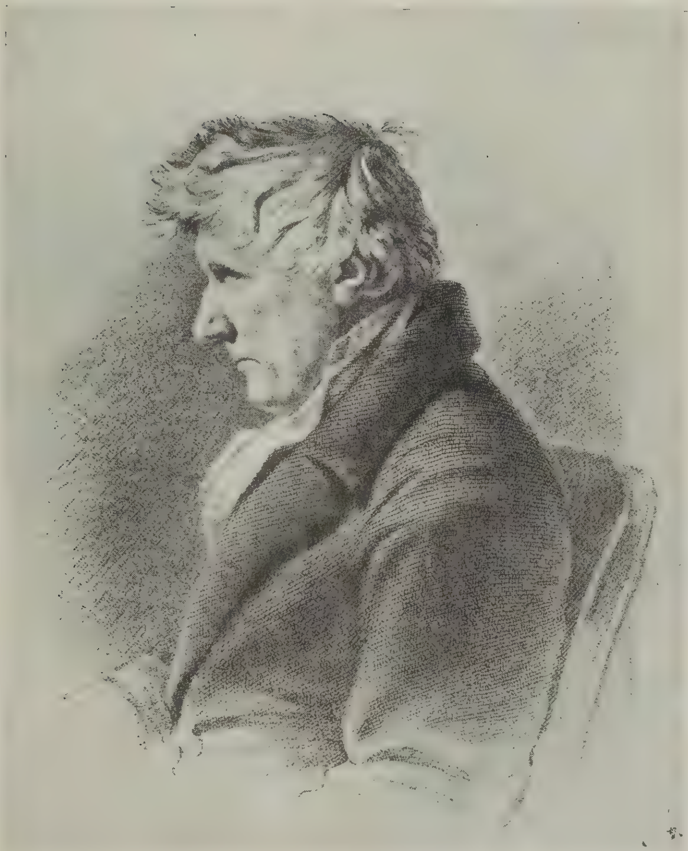
The above particulars are specially prepared by Messrs. Rayner & Co., of 5, Chancery Lane, London, from whom readers of this Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1/- each.

Wednesday, June 8, 1921.

Vol. LIII. No. 1379

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



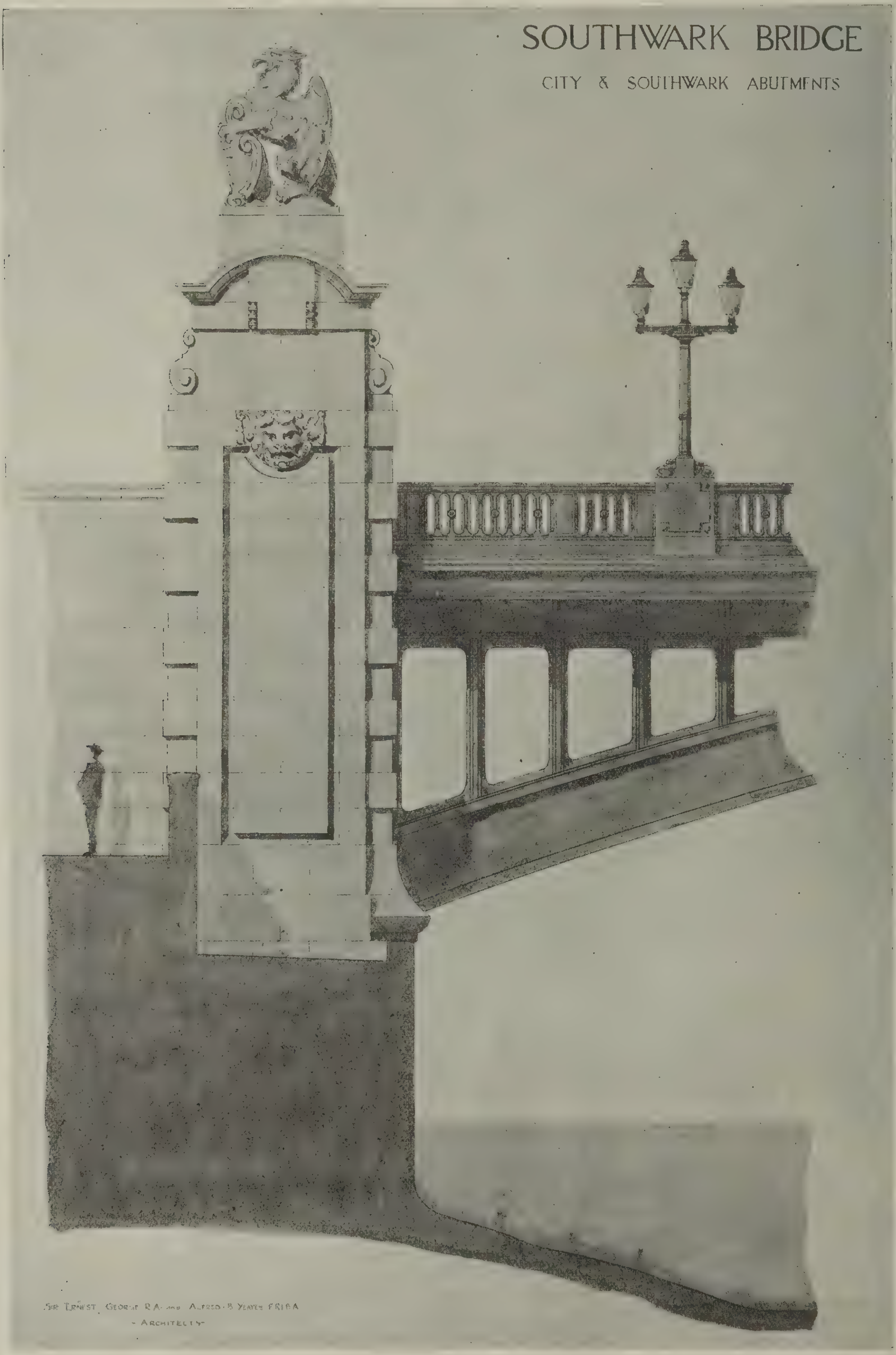
JOHN RENNIE (1761-1821)

John Rennie, though primarily a civil engineer, achieved considerable distinction as an architect. Even his strictly engineering structures are bold, massive, and monumental in character. He was extremely successful as a builder of bridges, erecting Waterloo Bridge (modelled on the earlier bridge at Kelso) in 1811-17, and the now demolished Southwark Bridge in 1814-19. He also prepared the designs for London Bridge, which, however, was carried out by his younger son Sir John. He also designed the London Docks, 1805, and the Plymouth Breakwater, 1812.

27-29 Tothill Street, Westminster, S.W.1.

Bridges. 1.—The New Southwark Bridge: Detail of End Abutments

Sir Ernest George, R.A., F.R.I.B.A., and Alfred B. Yeates, F.R.I.B.A., Architects


SOUTHWARK BRIDGE
CITY & SOUTHWARK ABUTMENTS
SIR ERNEST GEORGE R.A. AND ALFRED B. YEATES F.R.I.B.A.
- ARCHITECTS -

In the rebuilding of Southwark Bridge, architect and engineer have worked in close collaboration, Sir Ernest George, R.A., having been commissioned to provide the architectural treatment to a steel structure designed by Messrs. Mott, Hay, and Anderson. The above drawing shows the bold character of the end abutments.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, June 8, 1921 Volume LIII. No. 1379

Bridge, Architect, and Engineer

WHO should build our bridges—the architect, or the engineer? Time was when such a question would have been pointless; for while bridge-building is one of the most ancient of man's activities, engineering (of the type now familiar to us) is one of the newest of the professions. That is to say, the rather sharp distinction now drawn between architect and engineer is an application of the modern theory—very mischievous in many of its instances—of the "division of labour," and is in some sense an outcome of the nineteenth-century craze for classification. The progress of the new profession is coeval with the rise and progress of the railway mania.

Not but what the fact of engineering is a thousand years or more older than the general adoption of the name. Were not the ancient Roman builders of bridges very accomplished engineers? And, indeed, the practice, if not what to-day would be termed the science, of engineering, had grown elderly even in their day; for—to take a familiar example—their management of the thrusts of the arches in the Bridge of Æmilius across the Tiber had its foreshadowings in the practice of ancient Babylonian builders, who seem to have forestalled much modern ingenuity of the engineering type.

While, however, the Romans had acquired much of the skill that the modern engineer has brought to a pitch of perfection that rather tends to put a premium on conceit, they can hardly be accused of the modern engineer's deadly utilitarianism, his almost contemptuous and defiant attitude towards art, to say nothing of his frightful concessions to the human craving for adornment. Your Roman bridge, even when of the utmost simplicity and directness of design, never fails to be artistically satisfying. It is always goodly to look upon, a monument to architectural taste as well as to engineering skill. Destitute of decoration, and consisting usually of simple and shapely arches between generous abutments, the Roman bridge gives pleasure by its just scale and graceful proportions, and by the decorative emphasis given to certain organic elements of construction, such as keystones and voussoirs. To cite an inevitable instance, few modern engineering structures are half as pleasing to the rational observer as that noble Roman survival the Pont du Gard, with its three tiers of graceful arches, of which the topmost range "leads up," as a somewhat poetically inclined American writer has expressed it, "to the quiet cadence of the sky-line, like Doric triglyphs, intermediate between columns and cornice." If the Romans really were, as it is a commonplace to allege them to be, an intensely practical rather than an artistry-loving people, it is perhaps their astute recognition of the higher utility of artistic merit that led them to invest all their public works with always impressive if altogether rugged and austere æsthetic values.

But for the advent of our railways, we might have remained their heirs in the nuances of bridge-building. When, however, railways had to be carried across rivers, the lattice-girder bridge at once assumed an importance and an aggressive supremacy to which its strength, maybe, and its span-capacity, but decidedly not its beauty, seemed to entitle it. Immediately, ironwork was your only wear for other bridges besides those that carry the railways; and iron bridges, let it be whispered gently, are not merely tolerated by the average Londoner, but are positively admired by him, because he loves strength rather than beauty. He, the average natural man, is only too willing to let the engineer enjoy the monopoly of bridge-building. That is the real reason why so many disastrously hideous structures are allowed to bestraddle the Thames to the uglification of London. The railway bridges that spread desolation at Blackfriars, Charing Cross, and Victoria, make no æsthetic appeal that does not shock and scandalize educated perceptions; but to the vast majority of Londoners these monstrosities are not merely unobjectionable, but seem positively admirable, because they are familiar features of the London in which they have grown up, and because the bridges epitomize—quite unfittingly, it is true, but nevertheless *de facto*—the wealth and enterprise, energy and power, of a mighty if inartistic people—qualities that reach their zenith in the enormous "booms" of the Forth Bridge, which is absolutely worshipped as a "titanic feat of engineering skill." Those booms are, it must be admitted, an impressive, an over-aweing sight; but the sensation of being overawed is not equally agreeable to everybody, and one must confess to a certain degree of sympathy with the commonplace of criticism, that the works of man are preferable not titanic, but should bear a more appropriate relationship to the merely human scale. When his works become "titanic," man becomes a pigmy.

While we believe it to be unfortunately true that, as we have said, the iron bridges which cross the Thames are admired by the average Londoner for their very ugliness, which, alas! he has only too much reason to regard as being thoroughly characteristic of "dear old dirty London," nevertheless we rejoice to welcome some faint traces of a wholesome change of opinion. It would seem that the average natural Londoner is being slowly weaned from his sentimental affection for ugliness. It is the passionate desire of the London Society, and of similar agencies, to substitute for these idols objects of legitimate admiration, and in short to give the citizen more robust reasons for loving London.

Bridges will play an enormously important part in this conversion of the heathen; and bridges are manifesting significant signs that the love of adornment has not been entirely killed by the ironmaster. Even the much-abused clothing of the Tower Bridge in a Gothic jacket may be regarded by the optimist as a sign that the public conscience has been touched. Then the consent (under pressure) to hold a competition for the architectural treatment of St. Paul's Bridge was a still stronger portent that things are going our way; and, finally, the co-operation between engineer and architect for the redemption from absolute insipidity of the reconstructed Southwark Bridge, which is now on the point of being thrown open, is at least a hopeful augury of the dawn of brighter days for bridge-building.

Notes and Comments

Promoting the Unification Movement

VERY wisely the R.I.B.A. is taking a most broad-minded view of the Unification question. All possible steps are being taken to ascertain the thought, feeling, and opinion of the entire Profession on the vital issues involved. In furtherance of this eclectic and catholic policy, an informal meeting of Associates was held at 9 Conduit Street last night, and a conference has been arranged to take place at Liverpool on 24th and 25th of this present month. The President, we are officially informed—and those who know him have no need of the assurance—is most anxious that before any decisions are formulated the Unification proposals shall be thoroughly discussed by every one who is affected by them. It was thought, no doubt, that Associates would deliver their opinions more frankly and freely among themselves than if what they have sometimes termed "the Hierarchy of Eminent Fellows" were present. It is certainly an excellent idea, and we trust that the Associates attended in great numbers. The meeting at Liverpool will be opened by the Lord Mayor of that city; and the subjects set down for discussion will be seen, from the agenda which we print in a later page, to embrace many vital matters, the question (if it can any longer be called a question) of Unification and Registration naturally standing in the forefront. Thus the Institute is pursuing with great vigour its enlightened and liberal policy of canvassing, consulting, and taking into its confidence all members of the Profession whose interests are involved in the great movement which has been so successfully inaugurated, and is being so wisely and energetically promoted.

Death of Sir Rowand Anderson

Sir Robert Rowand Anderson, who died last Wednesday in Edinburgh, had reached the age of 87, and it was not until 1916 that he was awarded the Royal Gold Medal of the Institute. Richly had he earned it, for the tale of his work included some of the finest buildings in Scotland. He had built the new medical schools of Edinburgh University; the Caledonian Railway Offices in Glasgow, with their fine tower; Lord Bute's great mansion; and, crowning achievement of his prolific career, the McEwan Hall of Edinburgh University; and he had restored several castles, abbeys, and Dunblane Cathedral. The recognized head of his profession in Scotland, he was unanimously elected first president of the Scottish Institute of Architects. A full appreciation of his career must be deferred until our next issue.

Post Office Ineptitude

A truly wonderful concession has been made by the Postmaster-General. Picture postcards bearing no writing except "date and names and addresses of sender and addressee, formulas of courtesy or of a conventional character not exceeding five words or initials, will need only a penny stamp for inland transmission if they are marked to go at the inland printed paper rate"! That, of course, is merely a sop to the picture-postcard industry. All other interests, business and social, are fatuously excluded; while the Postmaster-General showed no eagerness to comply with Lord Riddell's request that a deputation representing all sections of the Press might be received to state the case against the increased postal rate for printed matter. It was made quite clear, at a meeting of the Newspaper Proprietors' Association last Wednesday, that the increased postal rate on British newspapers, periodicals, and trade publications, whose wide circulation "constitutes one of the strongest links of Empire, and one of the most effective methods of advertising British goods and disseminating British views and ideas," would seriously prejudice that circulation at a time when Britain's foreign trade requires every possible advertisement, and when other nations are stimulating the circulation of their newspapers and trade publications. These ought to be self-evident facts, and the Postmaster-General will acquire an unenviable reputation if he continues to antagonize them.

Ex-Service Men as Builders

London master builders are loyally endeavouring to assist the Government in the scheme for employing ex-Service men in the building industry, under a system of short-time apprenticeship. They have posted up at their works a notice to the effect that such works are open only to bricklayers, plasterers, slaters, and tilers who are willing to work with ex-Service men and to help them to learn a trade. Thus the London master builders are taking what steps they can to fulfil the pledge made to the Government. To make this pledge, in spite of almost certain opposition from the unions, was an act requiring considerable courage, but the master builders were assured of the approval of the general community, and did not altogether despair of the goodwill of the unionists, who, in the words of the secretary of the London district of the Operatives' Federation, "are quite prepared to carry on with their ordinary occupation." That the employers were actuated by no sinister motive, but by a sincere desire to assist the State and the victims of unemployment, and incidentally to mitigate the dearth of workers in the building industry, has been realized and admitted by the unionists, who, when convinced that the State and the employers are not "out to smash the unions," have been content to accept the situation on its merits. Tactful management and imperturbable good temper should preserve this amity.

The New President of the A.A.

Mr. William Godfrey Newton, M.A. Oxon., who succeeds Mr. G. G. Scott as President of the Architectural Association, certainly brings to the position a somewhat rare combination of gifts and graces. Fluent speaker, accomplished writer, and the son of Mr. Ernest Newton, R.A. (with whom he is in partnership as an architect, and with whom he is joint-editor of "The Architectural Review"), Mr. W. G. Newton combines within himself in no common degree the qualities of the artist and the man of affairs—a blend that at any time, but especially in the present circumstances, should prove invaluable to the A.A., which, no less than Mr. Newton himself, is to be sincerely congratulated on its choice of a new President. Our felicitations to both!

Ex-Service Men as Architects

At the end of the June term many ex-Service men will receive certificates and diplomas in architecture, the reward of successful study. Immediately they will be looking for work, and, in the present state of affairs, they will be fortunate to find it. As a rule, these men have been most decidedly successful as students, and it is deplorable to think that some of them may have much difficulty in securing the work for which they have so pluckily qualified. They will receive, we are sure, every kindly consideration from those to whom they apply for employment. Many of them would cheerfully accept employment abroad.

Architectural Office Administration

By FRANCIS LORNE, A.R.I.B.A.

(Continued from page 672, No. 1378)

Table of Abbreviations and Symbols

Near to the rubber stamp giving the description of the drawing, and to the smaller stamp of revisions, should be placed a table of abbreviations and symbols used on each drawing. A typical form of table of abbreviations, which may be contracted or expanded as desired, is given on form No. 5.

Superseded Stamp

Should any drawing be superseded for any reason whatsoever, this should be clearly marked on the drawing in red, and a rubber stamp for same is suggested on form No. 6, giving the date on which the drawing is superseded, and reference to the drawing by which it is superseded.

Stamp for Verification of Dimensions

Form No. 7 comprises a note so essential that it should be placed on every drawing issued by the office, in a conspicuous place on such drawing.

Stamp for Drawings Received

A suggested form for rubber stamp is given on form No. 8, to be affixed to all shop drawings or otherwise received, giving the date of the receipt of same.

Approval Stamp

When any sketch or drawing, such as a shop drawing, etc., is approved, this should be so noted on the drawing, and a rubber stamp giving this should be in general use in the draughting office. This stamp, of which a sample is given on form No. 9, should also be used on all building materials, approved for a building, and a stamped label giving such information can be affixed thereto, with the name of the building for which the material is intended.

Record of Drawings

Record of all drawings issued by the office should be kept on a card index filing system, on a card similar to form No. 10. This card should give the number of the drawing, date of preparation, file number, scale, concise description of same, and the date and number of copies issued, and to whom. If returned, note the date. All sketch drawings should be numbered from 0.1, backwards; all drawings pertaining to the contract numbered according to the size of the building, somewhat on the lines of the following:—

1– 49	One-eighth inch scale plans, elevations, and sections.
50– 99	Half-inch scale details.
100–199	Full-size details.
200–249	Structural drawings.
250–299	Mechanical drawings.
300–349	Electrical drawings, etc., according to the size of the operation.

Abbreviations for the type of prints can be as follows: Blue Print, B.P.; White Print, W.P.; Linen Print, L.P., etc. It is a very good habit also to letter on all original linen tracings in very small lettering a note of all copies of any drawing issued, giving number issued, to whom, and date.

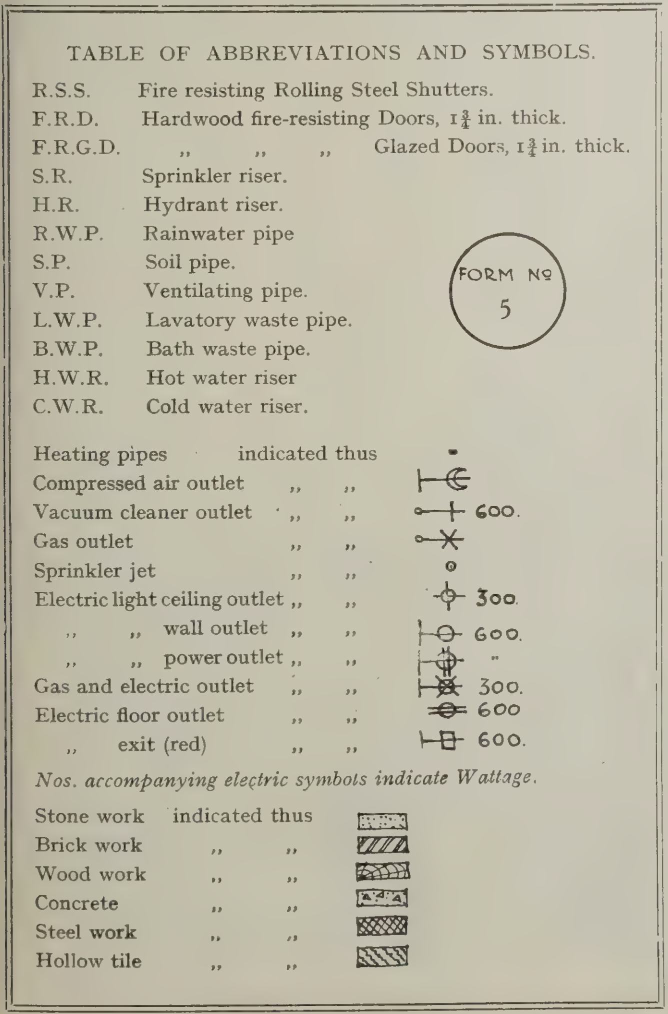


TABLE OF ABBREVIATIONS AND SYMBOLS.

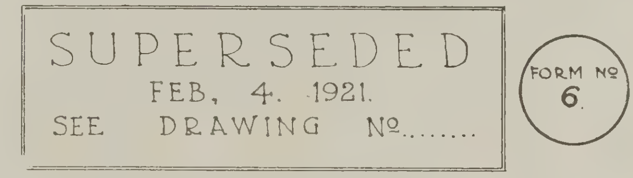
R.S.S.	Fire resisting Rolling Steel Shutters.
F.R.D.	Hardwood fire-resisting Doors, 1¾ in. thick.
F.R.G.D.	,, ,, ,, Glazed Doors, 1¾ in. thick.
S.R.	Sprinkler riser.
H.R.	Hydrant riser.
R.W.P.	Rainwater pipe
S.P.	Soil pipe.
V.P.	Ventilating pipe.
L.W.P.	Lavatory waste pipe.
B.W.P.	Bath waste pipe.
H.W.R.	Hot water riser
C.W.R.	Cold water riser.

FORM No 5

Heating pipes	indicated thus	•
Compressed air outlet	,, ,,	
Vacuum cleaner outlet	,, ,,	600.
Gas outlet	,, ,,	
Sprinkler jet	,, ,,	○
Electric light ceiling outlet	,, ,,	300.
,, ,, wall outlet	,, ,,	600.
,, ,, power outlet	,, ,,	"
Gas and electric outlet	,, ,,	300.
Electric floor outlet	,, ,,	600
,, exit (red)	,, ,,	600.

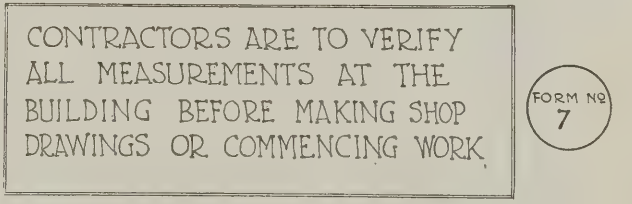
Nos. accompanying electric symbols indicate Wattage.

Stone work	indicated thus	▨
Brick work	,, ,,	▨
Wood work	,, ,,	▨
Concrete	,, ,,	▨
Steel work	,, ,,	▨
Hollow tile	,, ,,	▨



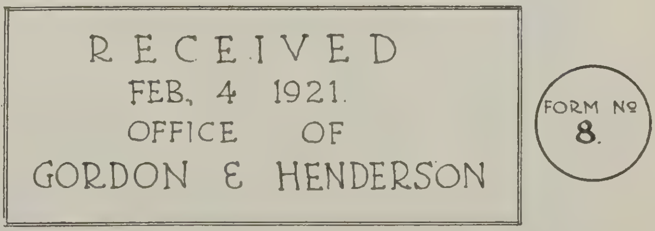
SUPERSEDED
FEB, 4. 1921.
SEE DRAWING No.......

FORM No 6.



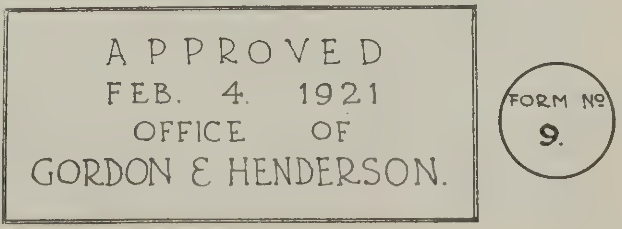
CONTRACTORS ARE TO VERIFY ALL MEASUREMENTS AT THE BUILDING BEFORE MAKING SHOP DRAWINGS OR COMMENCING WORK

FORM No 7



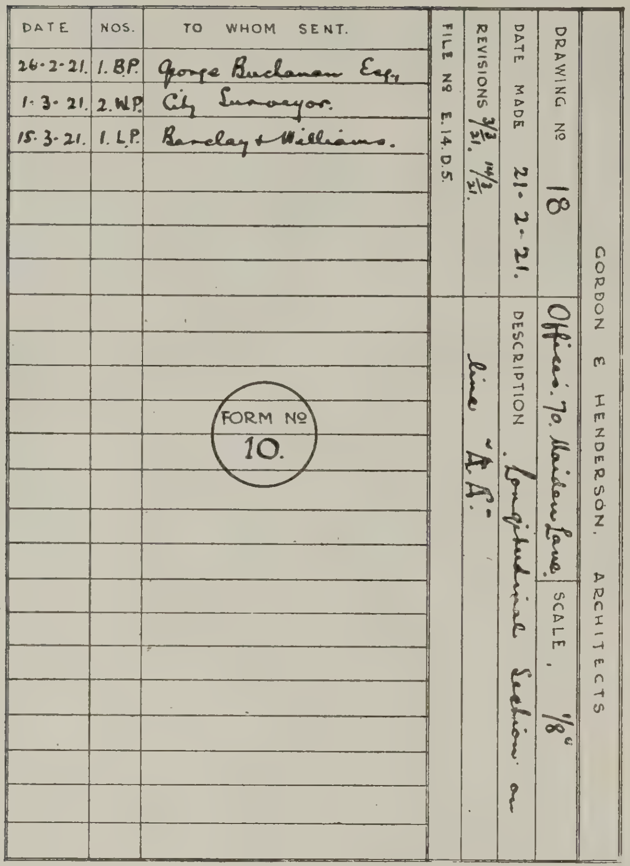
RECEIVED
FEB, 4 1921.
OFFICE OF
GORDON & HENDERSON

FORM No 8.



APPROVED
FEB. 4. 1921
OFFICE OF
GORDON & HENDERSON.

FORM No 9.



GORDON & HENDERSON. ARCHITECTS

DRAWING No 18

DATE MADE 21-2-21.

REVISIONS 3/3/21. 14/3/21.

FILE No E.14.D.5.

DESCRIPTION Offices: 70. Maiden Lane. Longitudinal Section on line "A.A."

SCALE. 1/8"

DATE	NOS.	TO WHOM SENT.
26-2-21.	1. B.P.	George Buchanan Esq.
1-3-21.	2. W.P.	City Surveyor.
15-3-21.	1. L.P.	Barclay & Williams.

FORM No 10.

Filing and Care of Drawings

The care of drawings in the draughting-room is of the greatest importance. Drawings go amissing, cannot be found, and, in reality, no one is at fault save those who have charge of the draughting-room. Drawings go amissing more often than letters do, and the reason probably is that those on the secretarial staff have, as a rule, much more orderly minds than those in the draughting-room. Provided the same care and the same methods of filing are used with the drawings, there is no reason why they should not be as easily found as the letters. Drawings can be kept for reference in various ways :—

1. In vertical cabinets, where they are placed in large envelopes, in the manner of filing of letters, each envelope being treated as a correspondence file folder.
2. In special folders, where the drawings are all clipped together in sets, all drawings belonging to one building being kept in one large folder, or subdivided in folders, for contract drawings, scale details, etc.
3. In the usual set of drawers, which is common to every office, and, when properly ordered, is perhaps the most satisfactory arrangement.

Each drawer should have a number clearly marked on the front, and be capable of holding three well-filled envelopes of drawings; each envelope should bear in clear figures its number and also a typed list of its contents. Whenever a drawing is added this should be noted on the list. Drawers should contain envelopes for sketches, drawings for submission to city, town, and district councils, and public authorities; $\frac{1}{8}$ in. or $\frac{1}{4}$ in. scale working drawings, and $\frac{1}{2}$ in. or $\frac{3}{4}$ in. scale drawings, and full-size details. A suitable board of soft wood should be placed over each set of drawers on the wall, or in a convenient place adjacent thereto, large enough to take octavo sheets comprising the lists of drawings in the various envelopes. All drawings for one building should, as far as possible, be kept in one set of drawers, and each drawing should be clearly marked with its envelope and drawer number, such as E 14, D 5, which means that the drawing in question is placed in envelope No. 14, in drawer No. 5. These lists above the sets of drawers should be kept up to date, and should correspond with the card index file for issuance of drawings described above. A suggestion of the way in which numbers may be apportioned to the various envelopes is herewith given. These can be adjusted according to the size of the building operation :—

Envelopes Nos.	1– 3.	Sketches.
Envelope No.	4.	Council drawings.
Envelopes Nos.	5– 6.	Working drawings.
,, ,,	7– 9.	Half-inch scale details.
,, ,,	10–15.	Full-size details.

SECTION 3

Correspondence and Records

Correspondence is a subject of no less importance than drawings, as the practising architect knows full well, as much of the smoothness of his dealings with his client depends on the clarity and order of his correspondence.

One of the most important rules of correspondence in any office should be that a letter be answered on the date on which it is received, whenever possible, and should be immediately filed.

All correspondence should be dealt with by the business partner, and referred to the members of the firm affected for information and reply as quickly as possible. All outgoing letters should be dictated to a secretary, and typed. This saves an enormous amount of time, and surely the time is past when architects write their business letters by hand. Letters should be dictated in the early morning and early afternoon, so that the secretarial staff can deal with them within the working hours of that day.

When the mail is opened in the morning the date-stamp should be affixed in a blank space of the letter, as near the right hand top corner as possible. This stamp should give the name of the office, the date on which the letter is received, with a space for the initials of the person to whom the letter is referred, the date on which it is answered, and its number in the correspondence file. A suggestion for this stamp is given on form No. 11.

The habit of passing letters round the office, whereby they are allowed to lie on desks or in drawers, should be restrained or altogether eliminated. If, for any proper reason, a letter should find its way out of the secretarial section of the office, such letter should be watched, and should be put back in the file as soon as possible.

Correspondence should be kept in horizontal folders, many manufacturers making a very suitable folder for this purpose. The "Unit" folder, made in varying colours for easy reference in the correspondence drawers, has a metal device for fixing letters. Each correspondence file for each building should be preceded by a general index. This index should cover the various persons or bodies referred to in the file, such as the client, the surveyors, engineers, solicitors, city or local authorities, contractors' and clerk of works' reports, minutes of meetings, extra orders and orders of omissions, etc. This index should bear a number next each name, corresponding with a number on each folder in the file. All letters in each folder should be strictly in chronological order. A date of information given is of the utmost importance.

GORDON & HENDERSON.
RECEIVED
7 Mar. 21.
Referred to ....
Answered ....
File No.....................

FORM No 11

(To be continued.)

Architectural Causerie

A New Variety Theatre for London

The Empire Theatre in Leicester Square is to make room for a larger and very possibly a better building. The site is that of Savile House, on the north side of the square. Savile House, which was destroyed by fire during the Gordon riots, and again towards the latter end of last century, when it was known as the El Dorado Music Hall, was the last home of Miss Linwood's famous gallery of art needlework, and she and the architect, Mr. Paget, were at law about it for half a lifetime. Mr. Frank Verity is the architect for the new theatre, which, when rebuilt, will hold nearly 3,000 persons. It is expected that the rebuilding, which is estimated to cost about £175,000, will occupy about five months, the aim being to reopen the house as a variety theatre at Christmas.

Mr. Chesterton among the Architects

Mr. G. K. Chesterton—may his shadow never grow less!—convulsed the gathering of architects and their pupils at a meeting of the Architectural Association last week. In a perfect, rippling voice, Mr. Chesterton passed from humour to humour; and while one cannot suffer the serious fool gladly, the cheerful fool one can something more than forgive. And how infectious was the mood! Mr. W. G. Newton, though he should have been somewhat oppressed with the incubus of his new responsibility as president of the Association, returned with grace many of G. K. C.'s sallies. "You cannot build with syncopated bricks," said Mr. Chesterton, with his gentle burble of a laugh. "But bricklayers have discovered how to build in syncopated time!" Mr. Newton happily replied.

The Provost of St. Mary's, Edinburgh, "landed" one or two heavy ones against the architects, and took as his text the surcharged atmosphere of the room. Mr. Austen Hall jumped up and deprecated the insinuation that architects knew nothing of ventilation; hadn't that atmosphere been created at much trouble and expense by them in order that Mr. Chesterton should feel snug and comfortable as in one of his own Sussex inns?

The Destroyed Custom House

Letters lately received from Irish architects, all, without exception, record deep grief at the loss of Gandon's Custom House. From the photograph reproduced below it will be seen that the shell is all that is left of this once noble building. Many of the fine sculptures have been destroyed, Flaxman's famous terra-cotta sharing their fate; but though Hope has gone from the cupola, the figure of Britannia continues to embrace Hibernia, and Father Neptune still steadfastly keeps watch and ward over the sobbing seascape. Some of our Irish friends express surprise at the vast amount of interest that has been manifested in England concerning the fate of the Dublin Custom House.

Architecture Made Popular

This solicitude is explained partly by the increasing popularity of the study of architecture, and partly by reference to the files of this JOURNAL, which has paid much attention to Gandon and his works. By the way, "The Manchester Guardian," as one of our contributors remarked in reference to its recent centenary celebration, has done yeoman's service to architecture by asserting constantly and alluringly its claims to attention from the general public. Mr. James Bone, it is understood, is the leading spirit in this emprise; and we believe that his success in it has been gracefully acknowledged in a personal letter of thanks sent to Mr. Bone by the Council of the R.I.B.A. Reverting to the Custom House, the attention of readers is directed to Mr. R. M. Butler's account of the present condition of the building which is given on page 719.

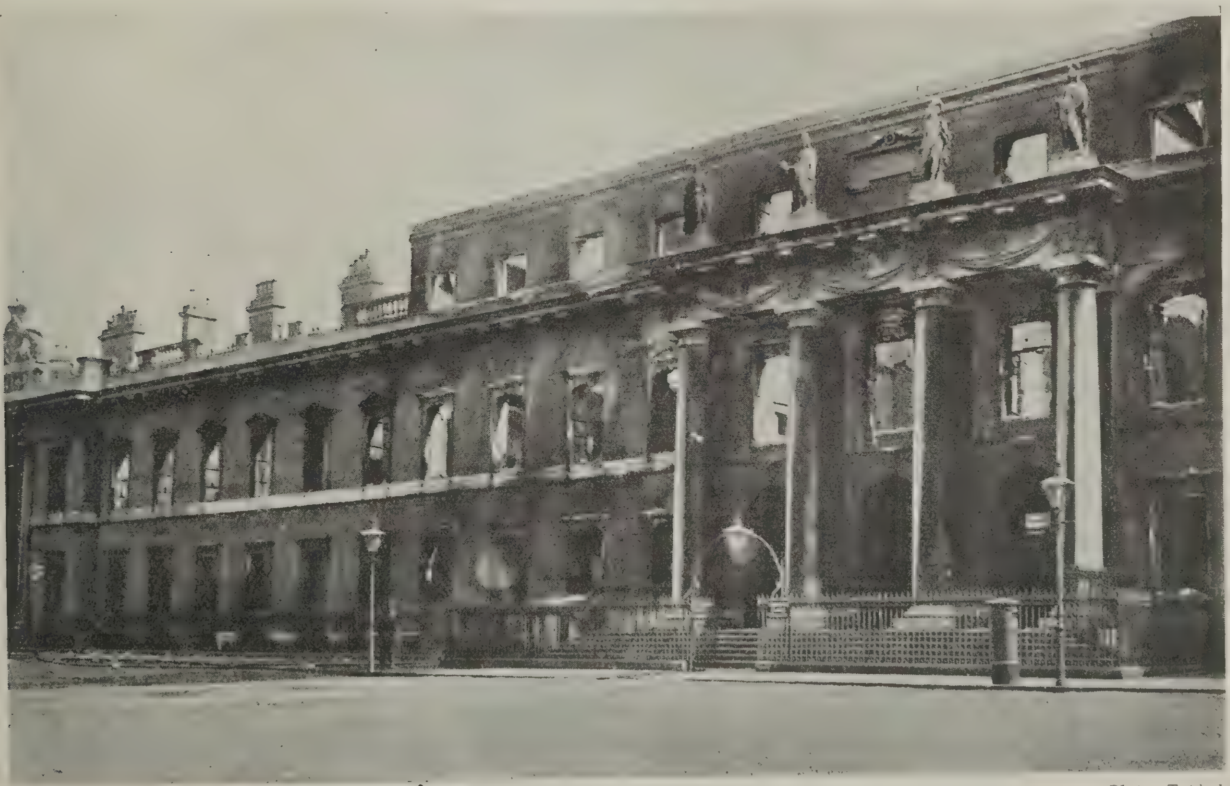


Photo: Topical.

BACK ELEVATION OF THE CUSTOM HOUSE, DUBLIN, AFTER THE FIRE.

The New Southwark Bridge

IT was so long ago as 1912 that the Bridge House Estates decided to demolish Rennie's Southwark Bridge and to erect a new bridge in its place. The principal reasons for demolition were (1) the steepness of the gradients (the city approach being so abrupt as 1 in 18), and (2) the hindrance that it caused to navigation owing to its having three spans instead of five, like most other London bridges, including Cannon Street Railway Bridge, for example, which is less than 150 yards down river from Southwark Bridge. To pass both bridges in safety it was necessary for river craft to follow a tortuous course, and there was always the risk of fouling the piers of the bridges. The decision of the Bridge House Estates was, therefore, a wise one, though there was no little grief, especially among architects, at the passing of Rennie's fine bridge. Some account of this will be given later. Messrs. Mott, Hay, and Anderson were appointed engineers for the new bridge, and Sir Ernest George, R.A., F.R.I.B.A., was commissioned to design the architectural treatment, which includes the granite piers, with their crowning seat and shelter on the bridge, and lunette and cornices above, the lamp standards, and piers marking the approaches to the bridge, carrying sculpture. These last have yet to be completed.

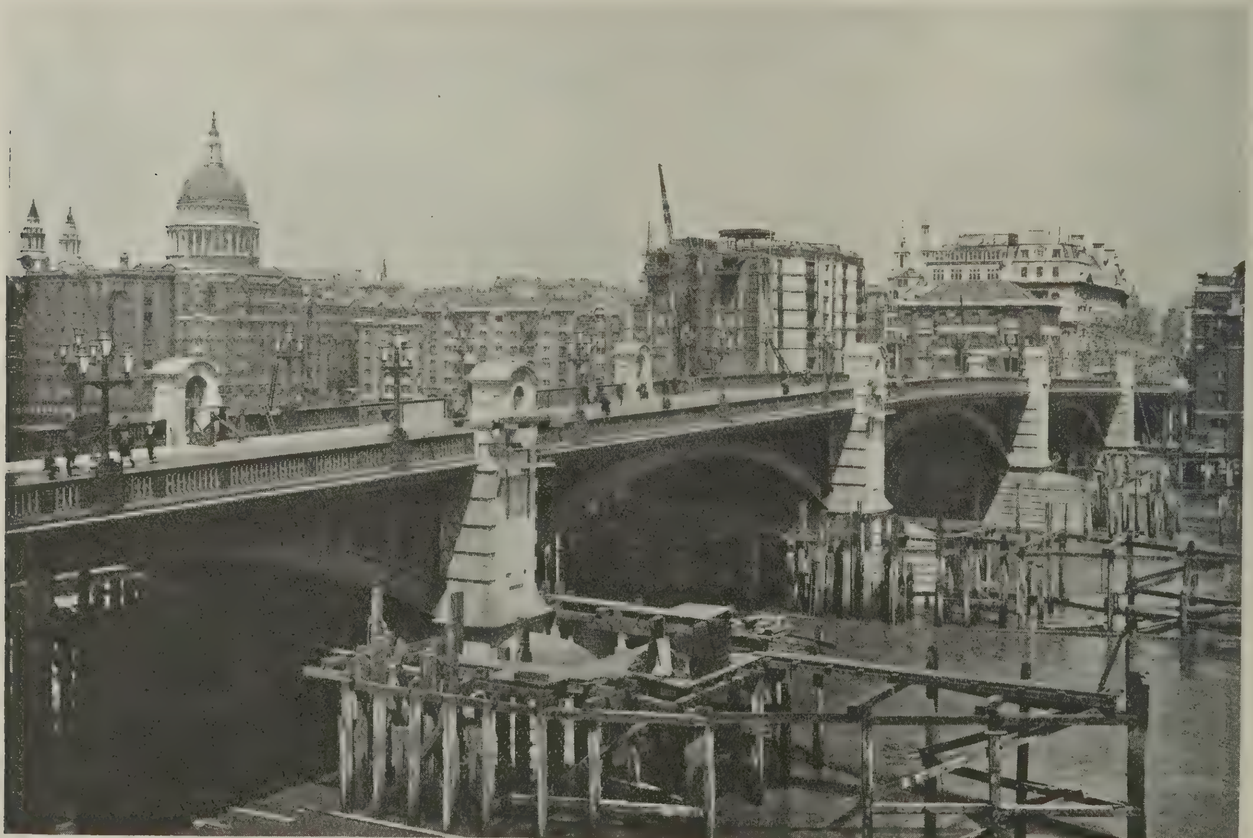
The new bridge in itself is a comparatively simple structure, but the method on which it was constructed has many points of interest. During the whole period covered by the demolition of the old bridge and the building of the new a highway for foot passenger traffic was maintained across the river, and a fairway for up and down river traffic was kept open. To this end, temporary bridges were built across the river on each side of the permanent structure. These served as foot roads for passengers during the greater part of the work, carried electric cables, gas mains, etc., and also served to support the cranes by which the demolition and building were in the main carried out.

The bridges were carried on wooden piers built up of 12 in. by 12 in. and 14 in. by 14 in. piles driven 20 ft. into the bed of the river. The position of these piers had to be chosen so as to leave room for the demolition of the stone piers of the old bridge and the building of those for the new, and at the same time had to allow a fairway for navigation. The temporary bridges, which had each a length of 712 ft., were each built up of two lattice girders, 16 ft. deep and at 10 ft. centres.

The new bridge differs from the old in having five arches instead of three. With the new bridge the city approach gradient has been reduced to 1 in 32.7, the Southwark approach to 1 in 46, and the maximum gradient of the bridge itself to 1 in 45.24. These alterations have necessarily lowered the level of the roadway, and although something has been gained by the shallower arch which the steel construction allows, the head above Trinity high water-level has been reduced from 28 ft. 9 in. to 26 ft. This new clearance is the same as that given on other river bridges, and is, consequently all that is necessary or of value.

The foundations of the old piers occupy quite different positions from those o the new, and they could not have been utilized in any way even if they had proved otherwise suitable. The stonework in the old piers was employed in the building of the new, but the old foundations were entirely removed down to the top of the beech piling on which they were found to be resting. The piling was not disturbed. This removal was carried out by building coffer-dams round the old piers to a depth of 50 ft. below high-water mark. The driving of these coffer-dams was carried out coincident with the building of the temporary bridges, but the taking down of the piers could not proceed until after the old bridge had been taken down. When the old piers and foundations had been removed the coffer-dams were taken away, and the holes which were left in the bed of the river were allowed to silt up naturally, no attempt being made to fill them in artificially.

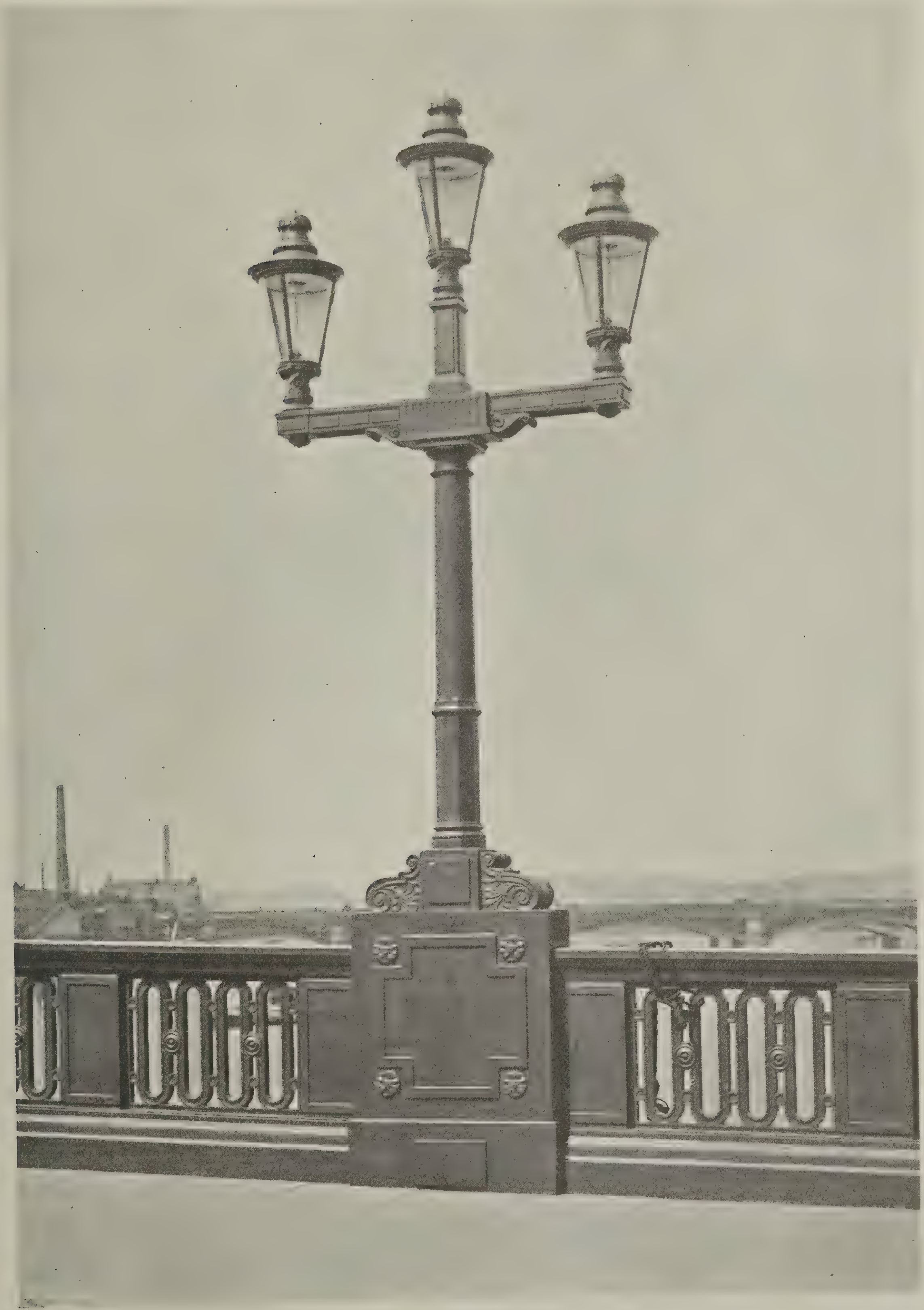
The foundations for the new piers were sunk by means of caissons erected above the river on piling and staging. The caissons were of unusually large dimensions, two being 102 ft. by 30 ft. and the other two 100 ft. 3 in. by 29 ft. The weight of the larger was about 200 tons. As the caissons were lowered into the river by means of hydraulic jacks they



THE NEW SOUTHWARK BRIDGE, FROM THE SOUTH-EAST.

Bridges. 2.—The New Southwark Bridge : Detail of Lamp Standard

Designed by Sir Ernest George, R.A., F.R.I.B.A.



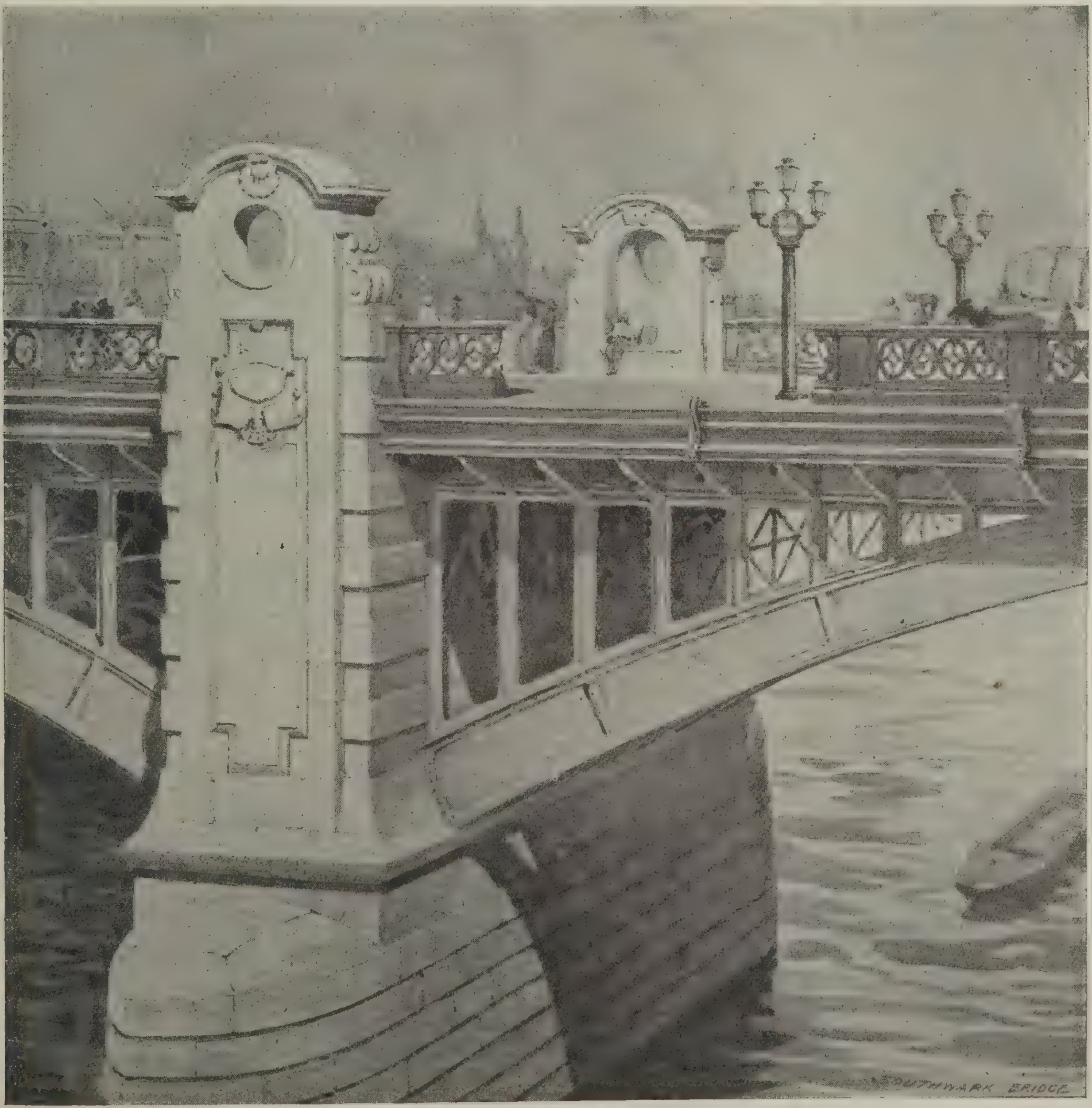
The new Southwark Bridge provides an interesting example of the collaboration of engineer and architect. Messrs. Mott, Hay, and Anderson were responsible for the design of the steelwork, while Sir Ernest George provided the architectural treatment, including the three-light lamp standards, of which there are fifteen on each side of the bridge.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

were gradually built higher at the top side by adding temporary strakes. When floating, they were adjusted to position and sunk by weighting. The caissons were designed so that the concrete filling could be completed up to masonry level and the masonry foundation started while the working chamber was in operation and the whole structure was sinking in the clay. When the final position was reached, 50 ft. below Trinity high water, the working chamber was filled in with concrete and the masonry building continued. It was at this stage of the proceedings that work was stopped on the bridge in July, 1917.

The new bridge arches each consist of seven steel ribs spaced at 8 ft. 9 in. centres, except the outer ribs at each side, which are at 5 ft. centres. These are connected together by cross-bracing consisting of deep lattice girders spaced about 10 ft. apart. The ribs were brought to the site in sections on barges. The centre segment of each rib was first dealt with, being lifted from the barge by one of the overhead cranes and hung in its correct position in hangers suspended from the channel stringers. The next segment was then lifted and suspended in the same way and bolted up to the first. This was continued until the whole arch was assembled, each individual segment, however, being supported by independent hangers. In placing the last segments in position at each end a lead backing about ⅜ in. thick, and occupying the middle third of the depth of the arch, was placed in position on the skewback. With the first rib still so suspended, the weight being taken by the hangers, the next was erected in the same way, and the cross-connecting girders fixed in place. The ribs were then riveted up and the spandrels fixed in place, and the weight was gradually transferred to the piers and abutments by slacking-off the hangers. This work was carried out uniformly throughout the whole of the ribs by rotating the nuts of the suspension rods by which the hangers were carried. These nuts lay above the channel stringers, and were very convenient of access.

The other ribs were then treated in the same way, and after the whole erection had had some weeks to settle and come to a bearing, further lead backing was run in behind the springing, and the full bearing surface formed. This work was not, however, carried out until the decking had been fixed. As will be obvious, all the rib segments could be lifted practically direct from a barge into their final position. In the fixing of the decking, however, this procedure could not be followed, but there was plenty of clearance between the outermost arches and the temporary bridges for the lifting of material from barges; the overhead cranes then allowed it to be easily and quickly transported into position. Towards the termination of the job, certain parts of the material had to be brought by road. The decking is carried on built-up cross-girders resting on the spandrels, which are themselves cross-connected by horizontal and diagonal bracing. Joists are fixed between the cross-girders, and the open spaces are filled in with ½ in. buckled plates. The depressions of the buckled plates are filled in with asphalt,



SIR ERNEST GEORGE'S ORIGINAL DESIGN FOR THE ARCHITECTURAL TREATMENT OF THE NEW SOUTHWARK BRIDGE.

and above this the wood paving with concrete foundation is laid. The outer half of the width of the side pavements is carried on built-up brackets riveted to the two outer main ribs on each side.

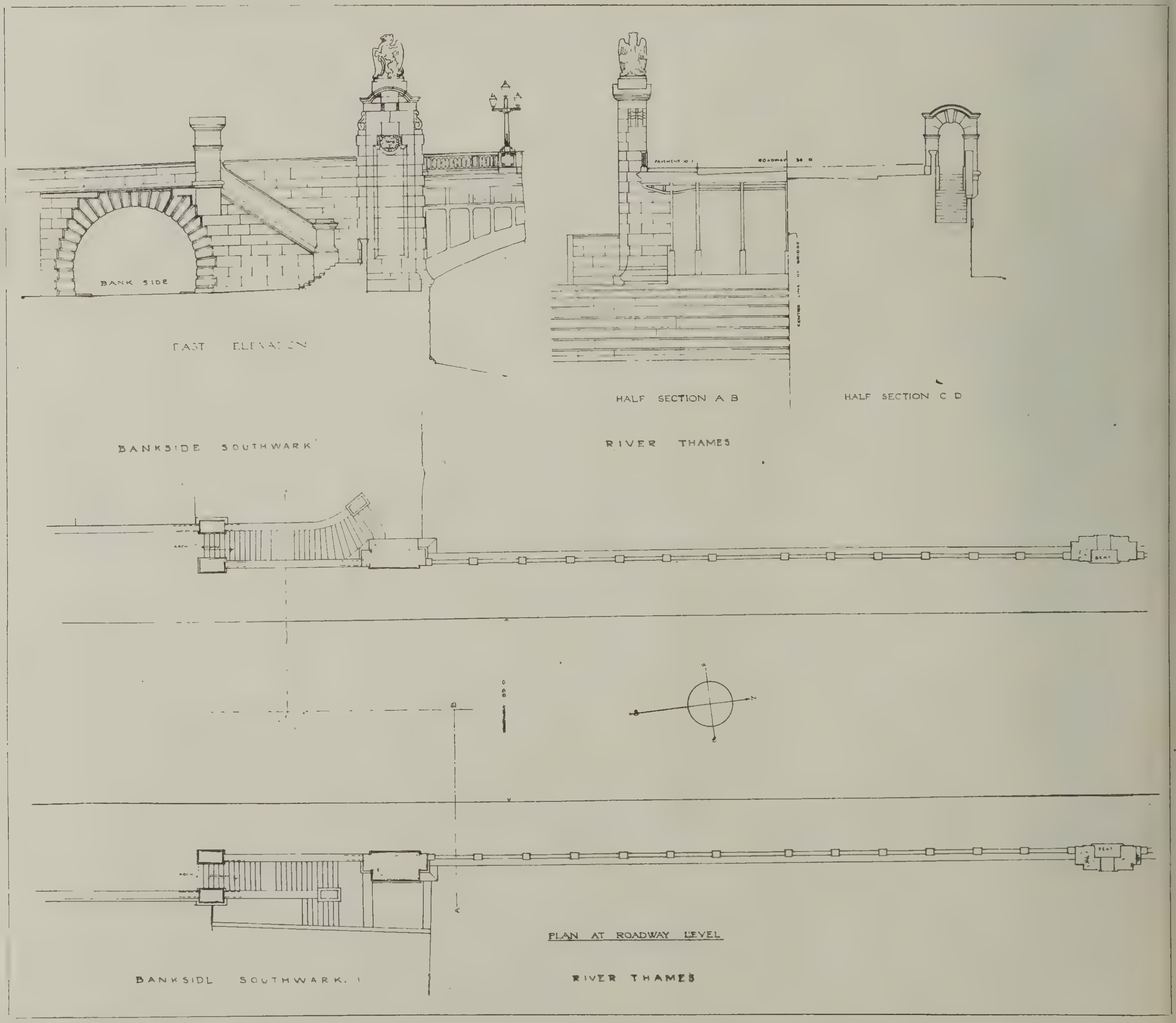
Before the completion of the cast-iron balustrading the demolition of the temporary work was commenced. At this stage the concrete for the roadway had been laid, and the cross-girders connecting the temporary bridges were taken down and removed by road transport. Rails were then laid for a steam jib crane, and the overhead cranes were run to one end of the bridge and dismantled by means of it. The wood-block roadway was then laid, and the cables and mains were removed from one of the temporary bridges and placed in their final position under the foot pavement. Passenger traffic was then diverted from the temporary bridges to the centre of the new bridge, and the demolition of the temporary bridges was carried out by running rails for the jib crane the full length of the bridge at one side and dismantling the bridge piecemeal. The consulting engineers, both for the demolition of the old bridge and the design and building of the new, were Messrs. Mott, Hay, and Anderson, of Westminster. Messrs, Sir William Arrol & Co., Ltd., acted as contractors throughout.

Some account of Rennie's old bridge may appropriately be given. It was in the year 1814 that John Rennie was appointed engineer-in-chief to the Southwark Bridge Company. Considerable opposition was made to the Act of Parliament for the construction of the bridge by the Corporation of London and the Conservators of the river, mainly on the score of obstruction to navigation. But the genius of John Rennie overcame the objections of the City Fathers; he realized that, as this was the narrowest part of the river between Blackfriars and old London Bridge, large arches might be adopted. Stone construction was out of the question, except for the abutments and startings, yet the theory of arched voussoir design was to be carried out in cast iron.

Rennie submitted a design to the Corporation, which consisted of three cast-iron arches, the centre one being of 240 ft. span, with a versed sine, or rise, of 24 ft., and the two side arches of 210 ft. each, with a versed sine of 18 ft. 10 in. each, the piers being 24 ft. in width. This design was approved and embodied in the structure which has now been demolished. The iron castings were made at Rotherham, in Yorkshire, and the general contract was given to Messrs. Jolliffe and Banks.

The unusual span of these novel arches caused much controversy in scientific circles; in fact, Rennie's calculations were questioned until Dr. Young, a well-known mathematician of the day, undertook to investigate them, the result being the complete vindication of Rennie's theories.

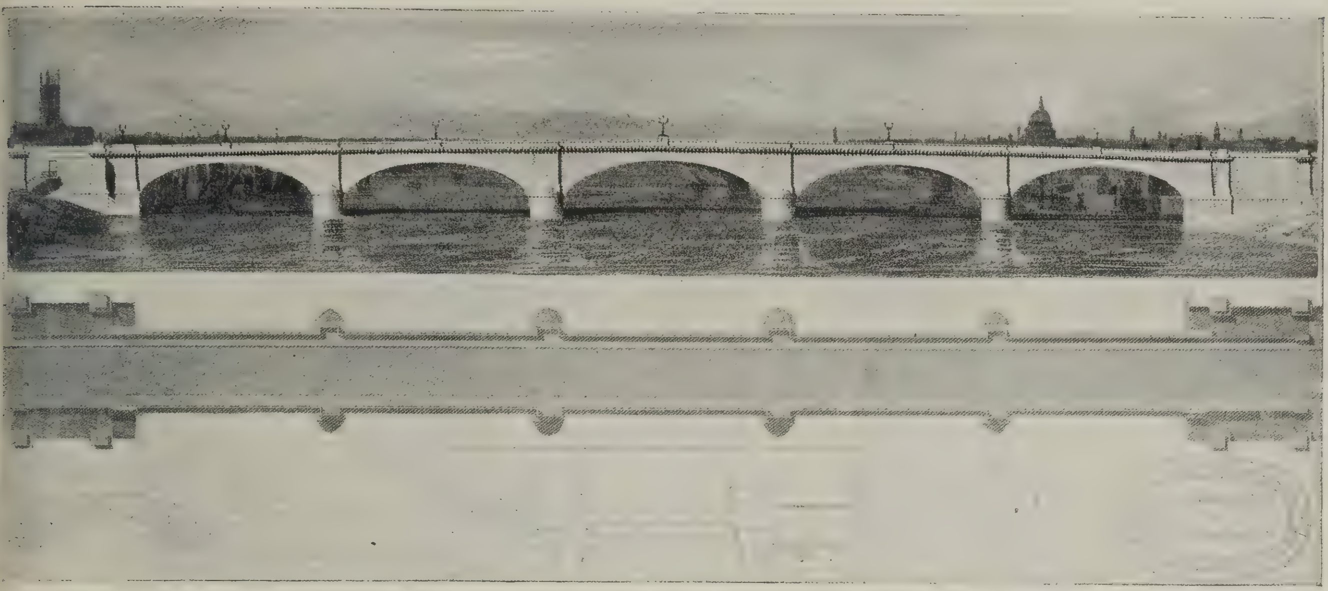
From an æsthetic standpoint the design of Southwark Bridge attained a similar high standard to that of Waterloo and London Bridges; even the cast-iron treatment was made to look its part and to harmonize with the architectural treat-



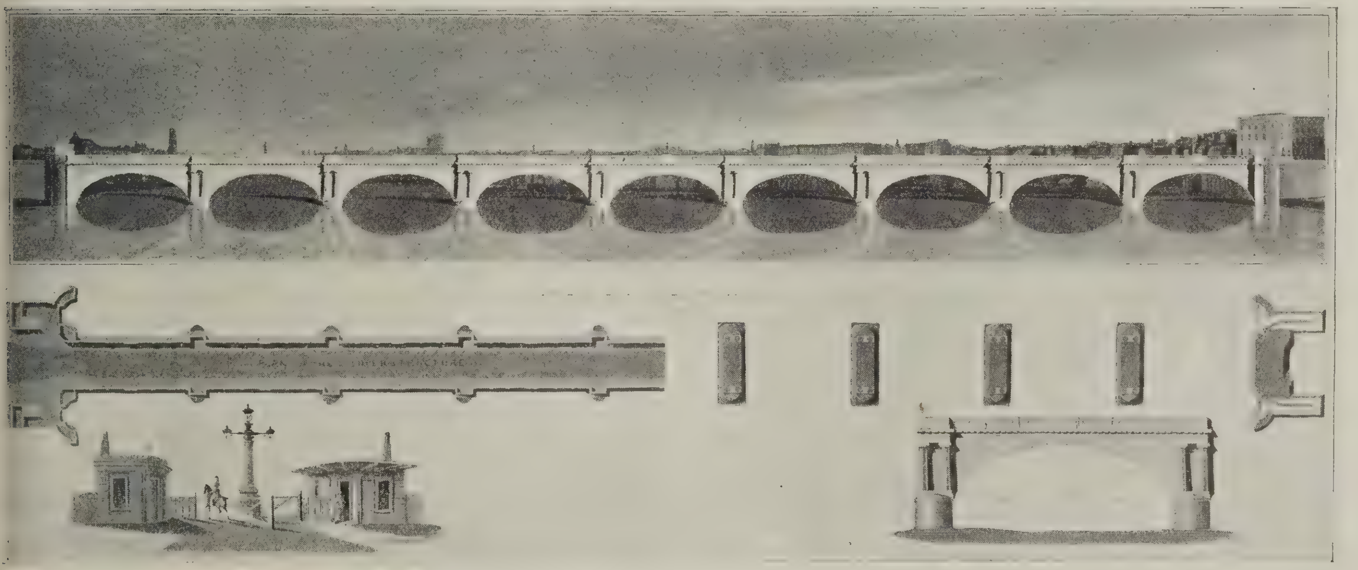
THE NEW SOUTHWARK BRIDGE: ARCHITECTURAL TREATMENT OF SOUTHERN APPROACH.
SIR ERNEST GEORGE, R.A., F.R.I.B.A., ARCHITECT

Bridges. 3.—London, Waterloo, and Southwark Bridges

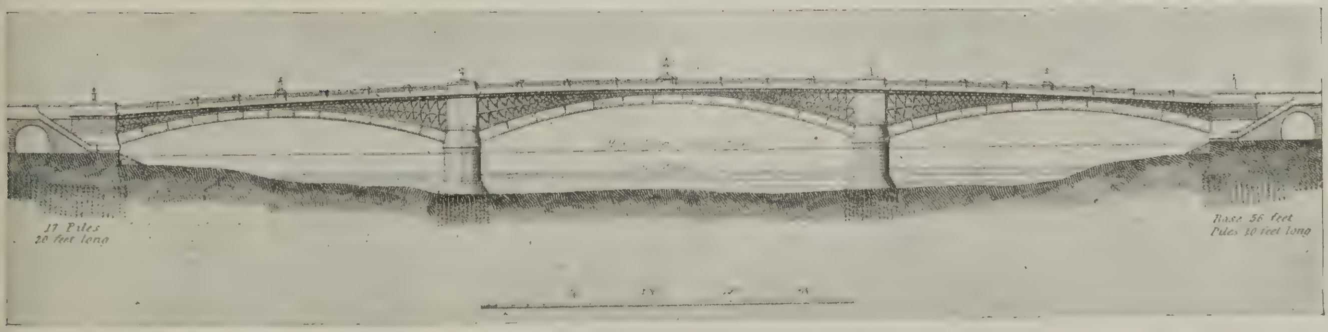
John Rennie, Architect



LONDON BRIDGE



WATERLOO BRIDGE



SOUTHWARK BRIDGE

Apropos of the opening of the new Southwark Bridge, the above illustrations of Rennie's three great bridges across the Thames in London (two now that his Southwark Bridge has been superseded) will be studied with renewed interest. The dates of building were:—Waterloo, 1811–17; Southwark, 1814–19; London, 1822–33. The last-named was widened in 1900

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

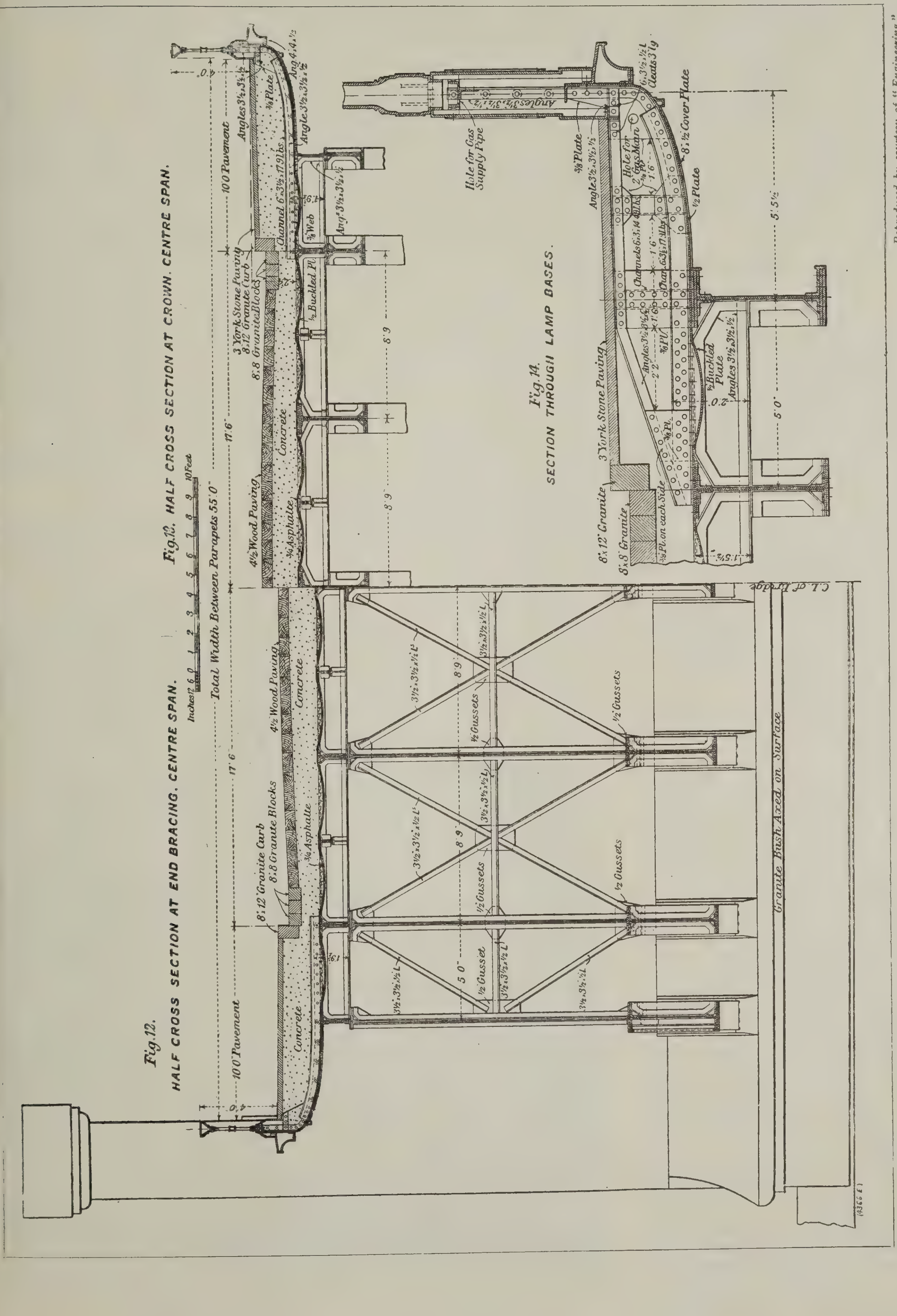


Fig.12. HALF CROSS SECTION AT END BRACING. CENTRE SPAN.

Fig.13. HALF CROSS SECTION AT CROWN. CENTRE SPAN.

Fig.14. SECTION THROUGH LAMP BASES.

THE NEW SOUTHWARK BRIDGE: DETAILS OF STEELWORK TO CENTRE SPAN. MOTT, HAY, AND ANDERSON, ENGINEERS.

Reproduced by courtesy of "Engineering."

ment of the pylons. Like most of Rennie's architectural essays, the theme of the design was Dorian, mainly because the detail of the Greek Doric entablature readily lent itself for interpretation in Cornish and Scotch granite. The severe character of the lamp standards, together with the restrained design of the parapet, served as an index to the period of erection if no other data were forthcoming.

Nothing very definite seems to have been attempted in the way of dignified buildings to form the approaches, which, with the exception of a respectable range of houses on the south-eastern side, were left to grow of themselves. The work of construction was begun on September 23, 1814, and the bridge was finally opened for traffic in April, 1819.

Book Notices

Italian Furniture.

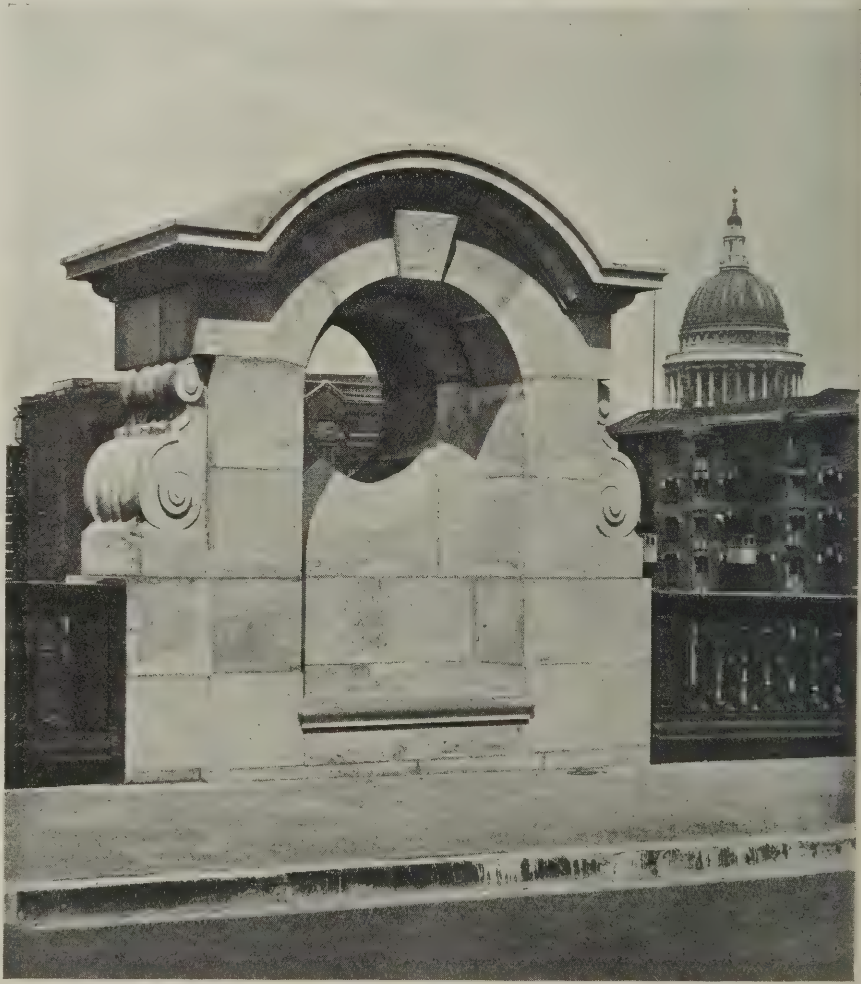
Italian furniture of the Renaissance has long had its ardent admirers in this country. For them the severity of the great English designers and craftsmen has no charm comparable in potency to that wrought by the Italian masters into their elaborately carved or otherwise profusely and delicately ornamented furniture. Jacobean, Georgian, Louis Seize, Empire, may now count on a most formidable rival in Italian Renaissance, towards which there is an unmistakable inclination. Italian chests, tables, stools, benches, and so forth, are being eagerly sought, and naturally, therefore, are being widely used as models and motifs. The 134 illustrations to Mrs. Mary E. Herrick's translation of Wilhelm von Bode's book show how supremely beautiful old Italian furniture is, and what magnificent craftsmen its makers were—their skill and taste never excelled, because unsurpassable.

This beauty of design and elaboration of detail were not at first lavished on domestic furniture. They were evoked and developed by veneration for the Church, were inspired by what has been, all down the ages, the most potent stimulus to art, religious fervour, which, in the first flush of the Renaissance of Romanism, seems to have been at once transmuted into a passion for art—a secular passion, perhaps; but the Church know how to direct such ardours to sacred service: "The choir stalls, the bishop's throne, the pulpit, the organ, the sacristy wardrobes and desks, the framing of the altar pictures, and the like, had, particularly in Florence, large monumental form, and were enlivened not only by modest wood-carving and beautiful intarsia, but occasionally also by the finest colouring through painting." There was also a large secular field; for "the town halls, hospitals, libraries, and other public buildings were fitted up with similar furniture, at times even very splendidly." In Renaissance Italy civic pride had grown strong.

It was, of course, the Medici who set the example of commissioning artists to make beautiful domestic furniture, and in this adaptation to secular uses "the influence of church furniture betrays itself plainly in the severe straight forms, in the frugal disposition of effective carving, as in the preference for colouring by means of painting and gilding, and notably through the use of different coloured woods." Michelangelo's activities as sculptor and architect "offered an abundance of motives for cabinet-work." Architectural effects are plentiful among the examples of furniture shown in this captivating book. Column and capital, moulding and entablature, cartouche and console, triglyph and metope, and, in fact, most of the constructional and carved features of the furniture, are derived directly, and often crudely, from architectural forms. Indeed, how could it be otherwise? "Nothing may come from nothing," as Lear reminded Cordelia; but architectural forms introduced into furniture should be more drastically modified for adaptation to this derivative use than they are in some of the earlier examples shown in the book. By the architect this crudeness may be regarded either with the joy of recognition or with the scorn of the purist who holds that buildings and the furniture they are to house should be distinctively ornamented; as, indeed, they are in most of the later examples, which, instead of revealing architectural origin bluntly and blatantly, suggest it with becoming delicacy and restraint; but from any point of view they are intensely interesting.

Among the examples illustrated in the book, chests are many and various; for, as the author says, "the chest, cassa, or cassone, is of great significance in the life of the Italian. Since the chests by the bed were considered the principal pieces in the outfit of a young married couple, the most important ones were designated bride or wedding chests. In the Middle Ages, chests were used also as portable furniture, and because of the roving life led by the richer classes (nobility as well as merchants) were transformed into travelling baggage." Nevertheless, baggage or not, the chests illustrated in the book are all very beautifully decorated, either with dainty carving or with exquisite painting; so also are all the other objects represented in a book whose rare charm will surely give to Italian furniture its rightful rank in the hierarchy of art. That there is much variety in the character of the work may be inferred from the chapter-headings, which respectively refer to Florence and Tuscany, Venice and the Mainland, Italy in the north-west, Rome and Naples. Every name suggests independence of character in art; but howsoever much the work may differ with the provenance, it always remains distinctively Italian, and in no instance in the book does the example fall below the very high standard which evidently has been adopted by the author as the criterion of selection. Such a collection of examples of beautiful art does not stop short at giving momentary pleasure to the eye of the beholder. It has a deeper significance and a more powerful influence. It inspires to emulation as well as to collection, educates the eye as well as pleases it.

Italian Renaissance Furniture. By Wilhelm von Bode. Translated by Mary E. Herrick. With 134 Illustrations. New York: William Helburn, Inc. (London: Technical Journals, Ltd., 27–29 Tothill Street, S.W.)

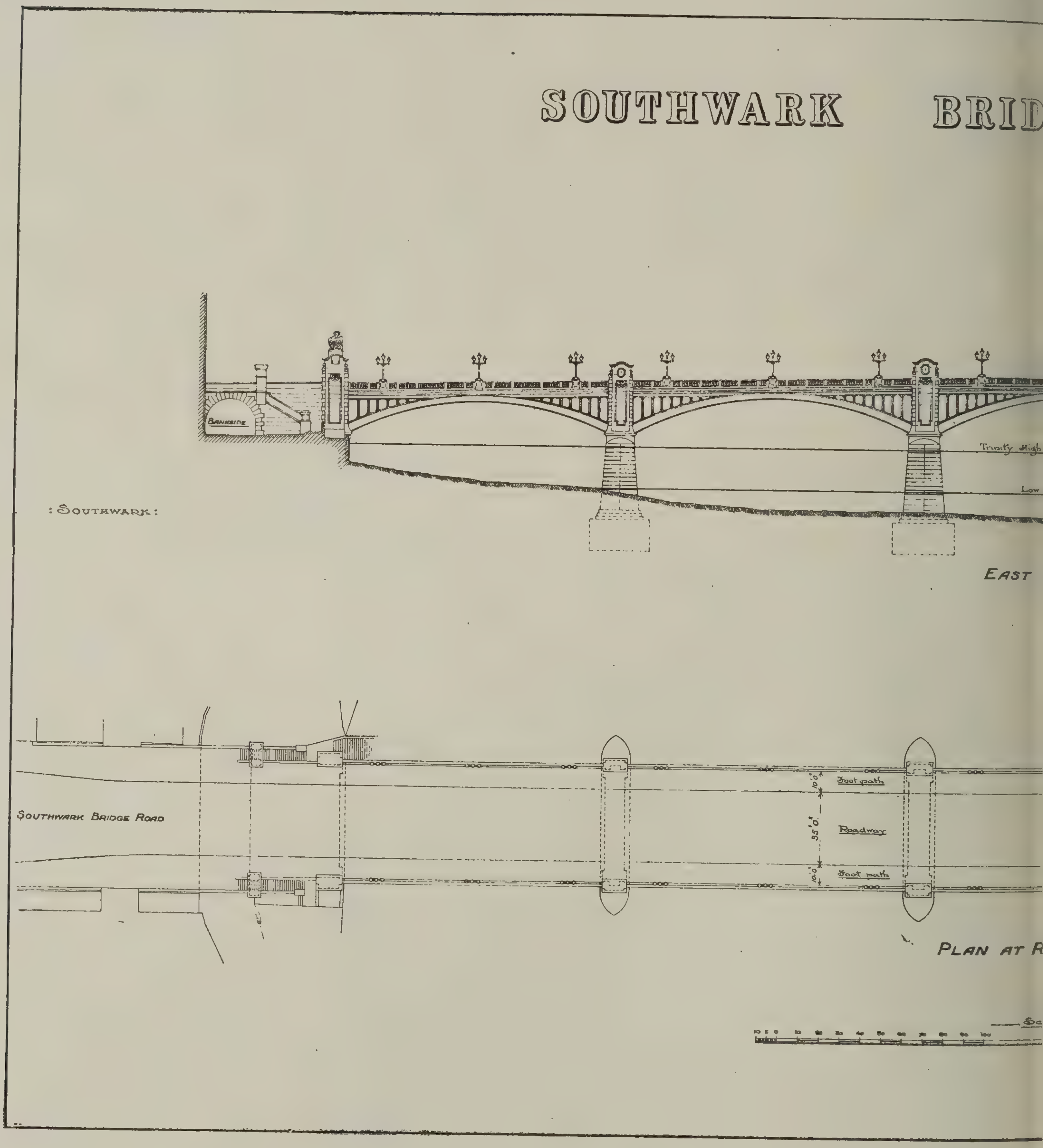


DETAIL OF GRANITE SEAT AND SHELTER ON THE NEW SOUTHWARK BRIDGE. SIR ERNEST GEORGE, R.A., F.R.I.B.A., ARCHITECT.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Bridges. 4.—The New Sout

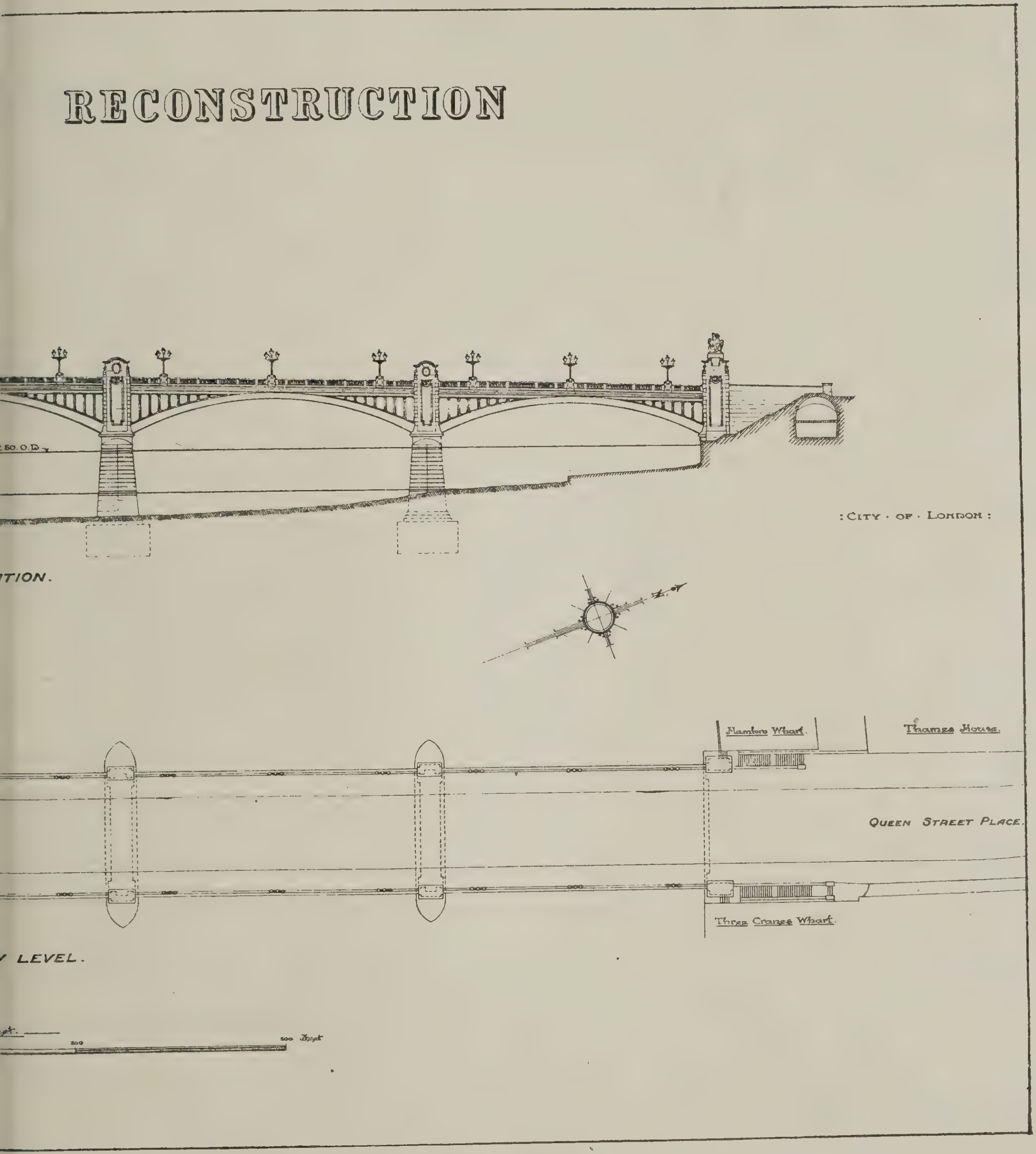
Sir Ernest George, R.A., F.R.I.B.A., Architect.



The new Southwark Bridge, begun in 1912, has just been completed, the progress of the work having been considerably
it is a great improvement on Rennie's old Southwark Bridge, which had inconvenient spans and steep gradients.
described in the article

Bridge : Elevation and Plan

Mott, Hay, and Anderson, Engineers.



d by the war. It is a steel deck bridge of five arches resting on granite piers. From the practical point of view
st of the new bridge is estimated at between £350,000 and £400,000. Both the old bridge and the new are fully
egins on page 700.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Determination of Floor Loads for Various Buildings

By A. Van OSENBRUGGEN.*

IT is now, even more than ever, essential that all possible economy should be studied in the design and construction of buildings. One factor which greatly influences the cost, and which is well worthy of investigation, is the strength or carrying capacity of the floors. In times past the total cost of a building was but slightly affected by any excessive strength of the floors because they were generally supported by walls, and the thickness of a wall is dependent upon its requirements for stability rather than for carrying capacity.

In the modern building, however, the floors are generally carried by a structural framework, and any excessive carrying capacity of the floors results in an excessive strength of the framework with a consequent and unnecessary increase in the total cost of the building.

When reinforced concrete is in question the floor-loads have still greater influence on the cost of a building because with reinforced concrete each member is specially designed for its purpose, and is not, as in the case of wood or steel construction, determined by the available section.

In reinforced concrete the whole structure is homogeneous, which gives it a very distinct advantage because concentrated loads are, through the continuous action of the various members, distributed over greater areas. This continuity causes more material to participate in the carrying of loads, which adds greatly to the resisting capacity of the structure as a whole.

Bearing this extra security in mind, and conscious of the necessity to reduce building costs, we find it interesting to consider afresh the floor-loads usually specified.

The stresses in a floor are in general due to four causes :—

(1) Dead load.
(2) Superimposed load, commonly called "live load."
(3) Impact effect of the superimposed load.
(4) Synchronism of intermittent efforts.

There is little to say about the dead load, which obviously should be kept as low as possible. Coming to the question of superimposed loads, we enter a field in which great divergence of opinion exists. This is mainly due to exaggerated theories of the effects of the third-mentioned cause for stresses in floors. It is usual, and, in fact, practical, to assume a total superimposed load which is sufficient to include the effects caused by any acceleration of the actual load.

Let us examine a particular case of increased pressure caused by acceleration of the actual load. Instead of treating the subject theoretically, the writer will refer to some experiments particulars of which were published in "The Times" of May 21, 1913.

According to these experiments it was found that if a man raised himself suddenly from a crouching position he exerted a pressure on the floor which was 77 per cent. in excess of his weight. It was also found that if he raised himself as quickly as possible from a sitting position in a chair, he exerted a pressure on the floor which was 80 per cent. in excess of his own weight.

According to Professor Johnson, of Harvard University, it was found possible to exert a pressure of 157 lbs. per sq. ft. on a floor by packing men as closely as possible into a limited area. This was a laboratory test, and similar conditions could hardly be produced in an ordinary practical case. Taking into account the manner in which this result was produced, it would apparently be wrong to multiply the weight of 157 lbs. per sq. ft. by a factor of 1.8 to provide for any acceleration of the load, because there is no possibility of such a crowd being in a crouching position and rising suddenly.

If a man is to exert an extra pressure of 80 per cent. due to acceleration, he must have sufficient room to be seated, and this requires approximately 3 sq. ft. of floor space. Assuming that a man seated in a chair weighs 160 lbs., the maximum pressure he could exert on a floor would be $\frac{160}{3} \times 1.8 = 96$ lbs. per sq. ft. It was also determined by Professor Johnson that people crowded together so closely as to give them only sufficient room to move about exert a pressure of only 84 lbs. per sq. ft. on the floor. Taking these facts into consideration, it would appear ample to allow for a superimposed load of 100 lbs. per sq. ft. when designing a floor of an assembly hall or football stand.

Assuming for the moment that in the case of a panic a crowd could be so congested, near a staircase for instance, as to produce on this area the maximum pressure of 157 lbs. per sq. ft., then this small area would be overloaded by 57 per cent. if it had been designed to carry a load of 100 lbs. per sq. ft. An overload of 57 per cent. is of little importance, especially in the case of a reinforced concrete structure where the excess stresses are alleviated by the extra support provided by the adjacent portions of the structure.

When considering the effects of synchronism, one often thinks of the well-known example of a regiment of soldiers passing over a bridge. Such an example does not apply to the floor of a building on which a crowd will never move in sufficient harmony to cause rhythmical vibration. The effect of dancing is probably the nearest approach to this state of affairs, but it should be borne in mind that a couple requires at least 8 sq. ft. of floor area when dancing, and the actual superimposed load per sq. ft. of floor area then becomes a small figure. Furthermore, if a theoretical state of rhythmical effect is to be produced, the couples must be placed on the floor in correct relation to the crests and troughs of the waves of the vibrating floor in order to ensure synchronism. Any such placing of a crowd is obviously inconceivable.

In very exceptional cases it happens that the vibration of a single machine, when working, synchronises with the swinging-time of a floor. In any such case the state of affairs can be altered by slightly altering the position of the machine and slightly altering the swinging-time of the floor by means of additional dead weight.

The writer is of opinion that the effect of synchronism should not be taken into account when assuming the superimposed load, because synchronism can be so easily eliminated as and when it occurs. He believes that the assumed superimposed load need be only large enough to provide for the actual superimposed load *plus* any additional stresses due to the impact effect.

This view can be substantiated by reasoning, and also by investigating the loads supported by existing floors which are successfully performing their duty.

Many suburban dwellers have given most enjoyable dances in their homes oblivious of the fact that the floors in the houses were never designed to carry a load of 150 lbs. per sq. ft., which is prescribed for dance-halls in the London County Council regulations. Furthermore, the dances in these suburban homes are probably more crowded, on account of the small floor area, than those given in public halls.

If we bear in mind that the London County Council regulations require a load of 70 lbs. per sq. ft. for the floors of ordinary residences, it is obvious that the requirement of 150 lbs. per sq. ft. for a dance-hall is excessive, and that an allowance of 100 lbs. per sq. ft. is ample.

In the category of office buildings the London County Council regulations require floors to be designed to carry a superimposed load of 100 lbs. per sq. ft. Many experiments have been conducted on such floors. Mr. R. Fleming in one of his articles referred to an investigation where the contents of 210 office buildings in Boston were accurately weighed. It was found that the greatest floor load in any one building was 41 lbs. per sq. ft., whilst the highest average load in ten office buildings was only 30 lbs. per sq. ft. It would, consequently, appear ample to design a floor of an office building to carry a superimposed load of 56 lbs. per sq. ft. with an additional safeguard for heavy concentrated loads. The safeguard would be most effectually provided by specifying that each beam should be capable of supporting a concentrated load of 3,000 lbs. in any position. Any overloading of the floors which might result by crowding people into an unoccupied space is easily provided for by the safety factor used in the design.

---

* Mr. Van Osenbruggen is Chief Engineer of the Trussed Concrete Steel Company, Ltd.

Dealing with the category of warehouses, for which a superimposed load of 224 lbs. per sq. ft. is stipulated by the regulations of the London County Council, this cannot be criticized in a general way. The writer thinks that each warehouse should be designed for the work it is intended to perform. The minimum requirement of 224 lbs. per sq. ft. does not seem unreasonable, but there is no justification for classing buildings as warehouses which are not warehouses at all. For instance, an ordinary factory building should not be considered as a building of the warehouse type.

We have determined from experiment that the floors of manufacturing buildings which are entirely loaded with machine tools, leaving only sufficient space to permit of their being efficiently worked, are subjected to loads not greater than 100 lbs. per sq. ft. Obviously an allowance of 224 lbs. per sq. ft. in the design of such buildings is excessive.

The London County Council regulations make no stipulation for the superimposed load of garage floors. Such floors have been closely studied in America, and Mr. Fleming suggests the following :—

(1) For private garages of less than 600 sq. ft. area, 60 lbs. per sq. ft., with one point load of 2,000 lbs. per beam.

(2) For garages of 600 sq. ft. and over, 90 lbs. per sq. ft., with one point load of 3,000 lbs. per beam.

(3) For garages in which lorries of 1 to 3-ton capacity are to be stored, 150 lbs. per sq. ft., and one point load of 8,000 lbs. per beam.

(4) For garages which undertake to accommodate any vehicles, including lorries of 3½ to 5-ton capacity, 200 lbs. per sq. ft., and one point load of 12,000 lbs. per beam.

The object of this article is to draw attention to the fact that, in general, floor-loads are assumed at too high a value, especially in this country. With the advent of the modern frame building, the conservative regulations for floor-loads require modification if we intend to construct buildings which will yield to their owners a proper return from a financial point of view.

Royal Scottish Academy

In the Architectural Section of the Royal Scottish Academy, Mr. Pittendreigh MacGillivray, R.S.A., has views of three memorials, and Mr. G. Washington Browne, R.S.A., shows two—one for the Gordons and the other Arbroath. Mr. James B. Dunn, A.R.S.A., exhibits his competitive design for the War Memorial Halls at Sheffield, and also the Hawick memorial. Sir Robert Lorimer, A.R.A., has three drawings on view—one a church for Long Island, U.S.A.; and memorials for Kelso and Selkirk. A drawing of the Council Chamber of Glasgow Municipal Buildings extension is shown by the architects, Messrs. Watson, Salmond, and Gray, Glasgow. Mr. William Kelly, L.L.D., has memorials on view; also Messrs. Cullen, Lochhead, and Brown; and Mr. MacGregor Chalmers, L.L.D.

Messrs. John Keppie and Henderson show drawings of the new buildings of the Progress Co-Operative Society, Glasgow. Mr. William Davidson exhibits the accepted design for the Parish Church, Corstorphine, and also memorials; and Mr. Alexander Marshall Mackenzie, L.L.D., R.S.A., shows an interior of the Sculpture Court of Aberdeen. Messrs. Stewart and Paterson have Dalmuir U. F. Church, and Mr. David McKay Stoddart shows the new Parade Cinema, Glasgow. Messrs. Oldrieve, Bell, and Paterson exhibit photographs of doorways of banks; and Messrs. H. E. Clifford and Lunan hang three photographs of Portland U. F. Church, Troon. Messrs. Henry and Maclennan have a house in Perthshire; and Mr. Frank Ed. B. Blanc has a perspective of a country house. Mr. A. N. Paterson shows a drawing of the War Memorial for the National Bank of Scotland; Messrs. Begg and Lorne Campbell exhibit their Watsonian War Memorial design; and Mr. J. A. Carfrae shows George Watsons College War Memorial.

Mr. Chesterton on Architecture

Mr. Chesterton addressed a crowded gathering in the dining-room of the Architectural Association last week on "A Layman's Views on Architects and Architecture." Architecture was, he said, the only sane art. Every other art was, at present, the playground for all sorts of extreme experiments, some of them promising, others, perhaps, rather threatening. But architecture had certain fundamental elements in its nature which prevented its going past a certain point in those interesting and sometimes amusing directions. Obviously, one of the things which kept architecture sane and central in human civilization was the fact that it was connected with certain realities, such as the art of building, and incidentally with the laws of Nature. To-day, in writing, one might see various sorts of poetical prose and prosaic poetry, and examples of lyrical poems, written in what was called free verse, without any ordinary metrical scansion. Many of these things were called songs, but it was not necessary for anyone to sing them. But people had to live in houses, and did somehow contrive to do so, even in the houses of the most imaginative architects. If one built a house badly, beyond a certain point of badness, it would fall down. Unfortunately, it was not true that a picture would fall down merely from excess of badness. In the same fashion one might go through almost all the other arts to show that, in the nature of things, they had a certain degree of liberty or licence which architecture, in the nature of things, could not possess. A psychologist would find it very interesting to study a problem he had never himself been able to reduce to terms of reason—that process by which a certain spirit or atmosphere was simultaneously common to all the arts—as, for instance, in the days of his youth, when the "impressionist" type of painting prevailed.

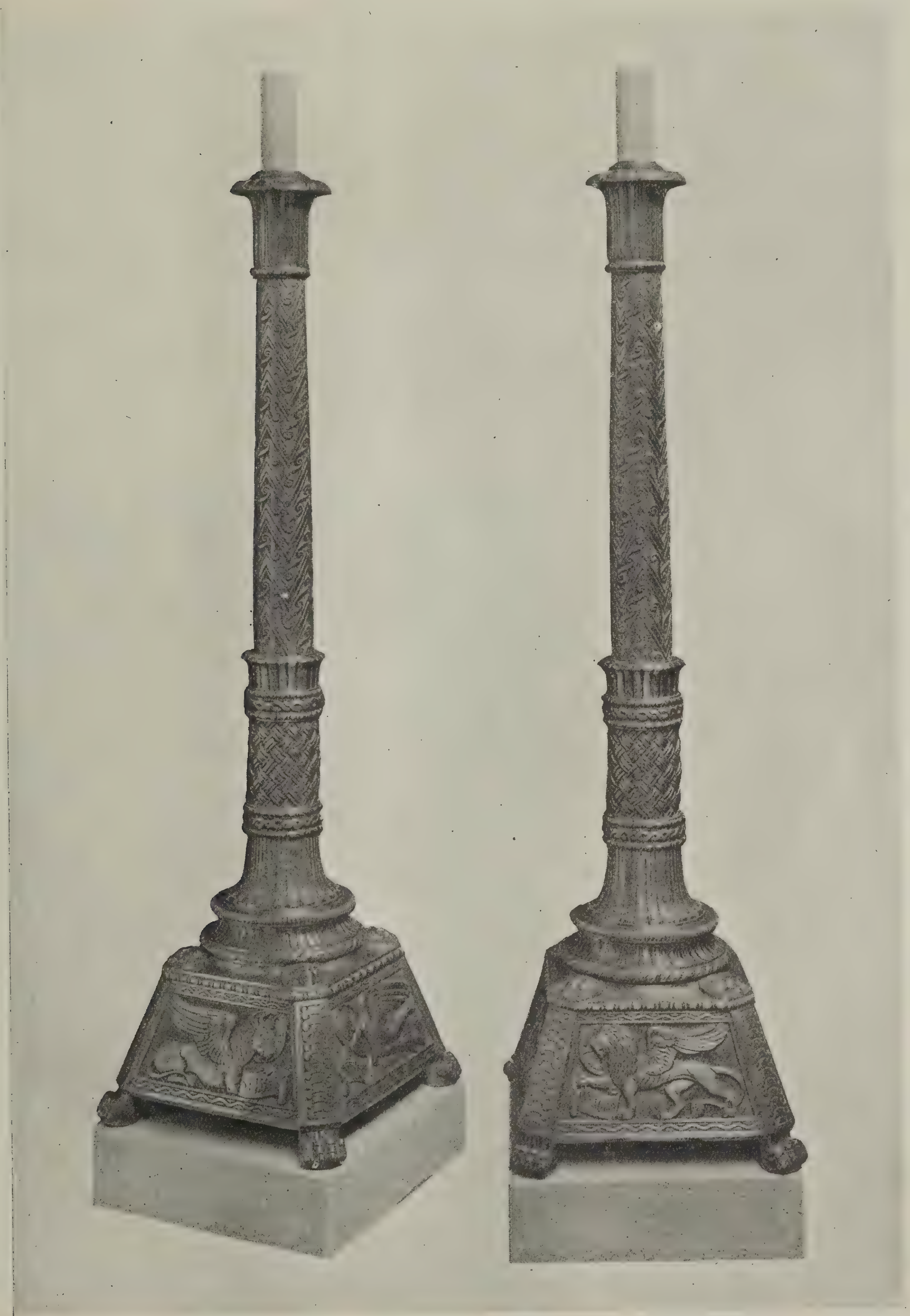
There was certainly a corresponding period in poetry; it was the period of the "Celtic twilight," and so on. At this moment a thing vaguely called "futurism" possessed a large number of the arts. But one could not exactly have an "impressionist" building, or one entirely made out of twilight. One could have syncopated music, but not syncopated bricks—bricks entirely separated from each other, and scattered in the air, as it were. Then there was the habit of transferring the terms of the technique of one art to another. There was even a time when the terms of ethics were introduced into art and criticism, and people talked about "the generous painting of the umbrella stand"—and of the "justice, yea, even mercy, with which the curtain at the back of the room was treated." He was very ignorant of the terminology of architecture, and he did not know if anybody did talk of making "a symphony in chimney-pots." The theory upon which this process of comparison was founded was largely based on the parallel of music; but where it broke down was where a great many theories broke down—in practice. A writer of free verse argued, "Why should I not produce a moving, inspiring, intoxicating poem by irregular lines with no metre ?" to which the answer was, "Why not, indeed? If you can produce an inspiring, intoxicating poem, I will promise not to complain of its being in irregular lines with no metre." But he had generally found that the librettist was not intoxicating, even when he appeared to be intoxicated. The fallacy of this translation of terms or parallels of the arts was in the psychology and nature of the arts themselves. The only thing that was unquestionably common to all the arts was that when the work of art had been completed it produced a certain effect which was described generally by the name of beauty. When that emotion was stirred in us, we knew it was the same kind of thing when it was produced in architecture as when it was produced in music. But until it was produced, he thought it by no means self-evident that there was any necessary connexion in the process of producing it. The object of any art like architecture, which was subject to this invasion of liberty or licence—the real problem here, as in politics or ethics, was of finding a place and outlet for liberty which would not destroy itself. It was manifestly impossible to allow anarchy in architecture without architecture destroying itself. A man might imagine that the spirit of the future called upon him to build a church erect upon its spire, but he would find that the spirit of the future would have to call a long time before he succeeded in doing it. In Gothic architecture one could "play the goat" a good deal, but not on so grand a scale as some modern artists desired to play it. But one could not make a whole cathedral in the nature of a gargoyle or flying buttress, and this seemed to him to be rather an advantage in architecture—it was impossible to play no other part except "the goat" in that particular art, as they apparently did in the other arts.

A vote of thanks was moved by Mr. W. G. Newton, and seconded by the Provost of St. Mary's Cathedral, Edinburgh. Mr. Atkinson and Mr. Austen Hall were among the other speakers of the evening.

Mr. Gilbert Scott, A.R.A., the retiring president of the Association, occupied the chair.

etails of Craftsmanship. 11.—Pewter Candlesticks for St. Barnabas Church, Shacklewell, London, E.

Designed by Professor C. H. Reilly, F.R.I.B.A. Executed by H. Tyson Smith



These pewter candlesticks, excellent specimens of modern craftsmanship, were cast and chased by Mr. H. Tyson Smith, the Liverpool sculptor, to the design of Professor C. H. Reilly. They are about five feet high, and cost £130 the pair.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Will the Whitgift Hospital Have to Go?

By L. BROOK-PARTRIDGE

DURING its three hundred and twenty-five years of life the famous old Whitgift Hospital in Croydon s several times been threatened with tinction, but so far it has survived all vicissitudes, and it still stands as a emorial to the name of the "Little ack Husband" of Queen Elizabeth—hn Whitgift, Archbishop of Canterbury the reign of the virgin queen, who unded the charity for the maintenance "not less than thirty brethren and sters, and so many more, under forty all, as the revenues may bear."

For three and a quarter centuries the lmshouses, which he erected to house ese "brethren and sisters," have stood m and defiant of every influence that reatened them. Several attempts have een made to sacrifice them for the idening of the main road—THE ARCHIECTS' JOURNAL championed the cause gainst one of these attempts—but in ite of everything the foundations of the d Elizabethan pile, which stands at the orner of North End and George Street, are as strong to-day as is the Foundation to which they owe their being.

Now, however, the Hospital faces a new danger. The local Corporation has secured a strip of hitherto privately-owned land contiguous to the Hospital in North End by the purchase of the frontage of adjoining shops—the thin end of the wedge. The Hospital stands at the thick end!

By the setting back of Messrs. Allder's premises several yards it is placed in the position of being the *only* obstacle to the widening of what is admittedly a dangerously narrow thoroughfare. The old building projects in such a manner as to cause a "bottle-neck" constriction at the southern end of North End, and it is a noteworthy fact that the architect who has supervised preservation work at the Hospital—Mr. Henry Berney—was also responsible for the cleverly executed reconstruction of Messrs. Allder's premises. He was the architect of the Hospital in 1896, when the Archbishop of Canterbury said, at the Tercentenary celebrations, "Our Croydon bids fair to be, one day, a place of broad streets and stately buildings. I venture to prophesy that, whether it be convenient to traffic or no, whether its plainness be by foppish tastes confounded with rudeness, the College of the Holy and undivided Trinity, with its cottage homes combined into a fair court, and its old brothers and sisters interested still in the increasing whirl outside, as they close years of anxious labour with years of smiling tranquillity, will stand for ever as the affectionate pride of multitudes of citizens who have been launched in life by the same munificent father and founder."

It becomes a question of very serious moment now, however, whether that "affectionate pride of multitudes of citizens" will not one day be vanquished by more materialistic regard for "broad streets and stately buildings." Regarded strictly from the utilitarian standpoint, and without consideration for sentiment, it is difficult to confound the arguments of those who contend that the Whitgift Hospital is "in the way." The motor-road, which is to be built to take main road traffic by another route past the town, is still a thing of the future, and while the Hospital stands as it does, despite all the widening elsewhere in its immediate neighbourhood, both vehicular and pedestrian traffic are considerably impeded, and to some degree endangered.

It is unfortunate that former generations did not foresee the contretemps which has now arisen: the Hospital forms what is tantamount to a half-closed barrier across the main Brighton road, and short of a courageous effort at drastic and expensive reconstruction of this portion of the town, involving the acquisition of high-priced property, and either diverting North End or creating a "loop" to one side or another, it is difficult to see in what manner can be preserved this fine old relic of the days of Queen Bess, with its picturesque quadrangle and its venerable old oak carvings in chimney-piece and wainscotings.

The position has not gone unobserved by the local authorities, for at a meeting of the Croydon Borough Council, Alderman Southwell remarked that doubtless members had observed the alterations in North End, and added: "I think the improvement is one which has only accentuated the position more than ever, and shows to the general public and the Council the necessity of very early dealing with it."

[Every effort should be made to preserve the Whitgift Hospital. Here is an opportunity for combined action by the R.I.B.A., the London Society, the Society for the Protection of Ancient Buildings, and the Town Planning Institute.—EDS. A. J.]

LIEUT.-COL. W. G. NEWTON, M.A., M.C., A.R.I.B.A.,
THE NEW PRESIDENT OF THE ARCHITECTURAL ASSOCIATION

The New A. A. President

Cordial congratulations will be offered to Lieut.-Col. W. G. Newton on his election to the presidency of the Architectural Association, which is exceedingly fortunate in finding so distinguished a successor to Mr. G. Gilbert Scott, who has just vacated the chair after a very successful term of office.

Land Subsidence and its Effect on Concrete and other Structures[*]

By LAWSON S. WHITE, A.M.C.I., A.M.Inst.C.E.

DURING the preparation of these notes the author realized that the title chosen might convey a wrong impression as to the subject he intends to deal with, and therefore he asks to be excused for a somewhat hasty choice. The author was engaged in construction work in Canada for several years before the war, and during that period was fortunate enough to witness some very interesting cases of foundation failures, which prompted him to study this subject and to prepare these notes.

Earth Pressures

We need not travel far to find the unfortunate results that have been brought about by disregard, or, perhaps, ignorance, of the first principles of earth pressures. We hear frequently of the partial or total collapse of buildings caused by adjacent excavations, and we see on every hand the evidence of weak foundations in the cracking up of the walls of poorly built houses.

Some of our most experienced engineers, men to whom we owe the conception and design of many of our noblest structures, have wrestled with the same problem. The settlement of Cannon Street Railway Bridge, Charing Cross Railway Bridge, and the Tower Bridge on their foundation beds is illustrative of the many difficulties presented by the uncertain behaviour of the soil as a supporting material.

Happily there has been a steady movement during the last two decades to get to "rock bottom," and we owe much to those who, by careful research and experiment, have contributed to our enlightenment. Frequent failures, due to lack of information, have forced things to an acute stage in America, and it is with great satisfaction we can welcome the timely effort of the American Society of Civil Engineers in forming a Special Committee to "codify present practice on the bearing value of soils for foundations." We can still further commend the work of the Committee in that they have by their extensive investigations overstepped the limits of their task, and so provided in large measure for "future practice." (Progress Report, August 1921.)

Mining Districts and Marshy Ground

In mining districts where careless methods have been employed, subsidence of large areas of land with consequent destruction of property is only to be expected. Instances are quite common in the coalfields where the seam is near the surface, and they are also very frequent in salt-mining districts. The remedy lies in careful backfilling after mining or in the provision of adequate permanent supports. An irrecoverable waste of valuable fuel is caused by leaving 30 per cent. of the coal seams in pillars to support the roof. Chalk as a foundation bed should be well tested, since it is liable to undergo dissolution, leading to the formation of cavities or "pipes" which may cave in under pressure.

Where large tracts of marshy ground with thick peaty top soil are drained, a considerable subsidence takes place. This is due to three main causes—drying, decay, and cultivation. Parts of the Fenland sank through 10 ft. between 1848–1913, and similar conditions have been observed by C. W. Okey during the reclamation of muck and peatlands in Southern Louisiana and Florida. ("The Subsidence of Muck and Peat Soils in Southern Louisiana and Florida.")

Since a country of this type is usually very flat and almost waterlogged, the drainage system must be very carefully thought out, and provision made for maximum shrinkage. As the water-table is lowered so the grades change, and unless this is allowed for, a pumping-plant or drainage system may be rendered useless. Buildings on slowly subsiding soils usually settle equally and without damage, but the decay of timber pile foundations subsequent to the lowering of the water-level is a frequent cause of failure.

Made-up Ground

It is a moot point with engineers whether or not earth taken from a cutting shrinks when made into an embankment. From exhaustive investigation of actual works it would appear that in calculating excavation quantities an allowance should be made. It would be difficult to compact earth more closely than nature does, and the density of the soil increases with its depth. Top soils, however, contain a considerable percentage of voids caused by frost or organic action; and since most embankments are built of soil of this nature, taken from shallow excavations, it is only to be expected that, quite apart from apparent shrinkage of volume due to subsidence of foundation bed and loss of volume due to transportation from cut to fill, or else due to rain erosion, a decrease in volume will result from handling and deposition and subsequent pressure in the fill.

Made-up ground takes time to settle finally, in spite of most careful watering and rolling in deposition. "Hydraulicking," a modern method of building large fills by pumping the material into place with water, resembles more closely the natural method of formation and produces best results. Unless it is thoroughly investigated and tested, "made-up" ground should be avoided as a foundation bed for heavy buildings.

The resistance to movement created by friction of soils on soils or structures on soils is the fundamental cause of their stability. Many failures of embankments, retaining walls, dock walls, etc., are attributable either to a subsequent loss of frictional resistance or to the exceeding of the resistance value in design. Water is the chief enemy and, unfortunately, it is almost impossible in many cases to avoid its penetration to foundation beds. Deep porous, sandy soils drain themselves freely, but clay soon becomes saturated, loses cohesion and frictional resistance, and offers little resistance to the lateral thrust of superimposed soils or structures. Good drainage is, therefore, essential where possible. In cases where it is not possible to avoid water penetration, foundations must be taken down far enough to ensure their stability under the worst conditions, and lateral thrusts should be relieved or balanced to reduce their effects to a minimum.

Adequate Drainage Desirable

When its cohesive strength is exceeded a soil has a tendency to flow like a plastic mass. In some cases the breaking down of cohesion destroys a resistance that cannot be regained, and movement continues until the pressure is distributed over an area large enough to bear it. In the Culebra Cut of the Panama Canal the clay at about canal bottom was forced to flow on account of the enormous weight of earth above it, and it bulged up into the fairway. By increasing water content beyond a certain limit we reduce the cohesive strength of soil, and adequate drainage of soils subject to saturation is, therefore, desirable.

By this short summary of the various causes of subsidence, and by passing references to a few actual failures, the author hopes that attention will be directed to the need for a closer study of this subject, and that from this a more confident practice will result.

It is easier and cheaper to brace an excavation adequately than to be obliged to rebuild a street of ruined houses.

It is more economical to investigate a foundation bed thoroughly and design sound footings than to underpin weak footings after their failure.

Allowance must be made for any "natural" change of state which might occur, for otherwise a design may prove inadequate to meet new conditions.

Where trouble occurs it is due, in a great many instances, to water action. Good drainage, therefore, is a key to safety.

Foundation Design

It has been said of foundation design that, unlike most other engineering calculations, it pays little heed to a safety factor, but it now seems far more possible that this highly desirable working margin may be economically obtained by the more extensive use of reinforced concrete in foundations.

In conclusion, the author wishes to thank those who have assisted him either personally or indirectly in preparing these notes, and he would make special reference to the welcome spirit of co-operation shown by the Engineering Institute of Canada and the American Society of Civil Engineers in encouraging and assisting the investigations which he has felt it necessary to make.

---

[*] Extracts from a paper read before The Concrete Institute.

Dublin Custom House

Mr. R. M. Butler, F.R.I.B.A., the disnguished Dublin architect, has written o the Irish Press to contradict a statement concerning the cost of rebuilding he Custom House, which has been estimated at a million and a half sterling. It could not cost anything at all like hat sum," says Mr. Butler. "The ustom House owed its architectural nterest almost entirely to the grace and eauty of the exterior; the interior was uite simply finished, and possessed comparatively little special interest. Many f the corridors and rooms were dark and nconvenient. Happily, the great river açade, nearly 400 ft. in length, has almost ntirely escaped injury. Even the woodwork of the doors and windows is, to a arge extent, intact; and the peristyle of he dome does not seem to be badly njured. The beautiful sculpture by Edward Smyth has also fortunately escaped.

"A comparatively small sum would restore the river frontage to its former outward appearance. Little or no damage has been done to the western front; but the northern façade, facing Beresford Place, has suffered severely, though by no means irreparably. On this front many of the Portland stone dressings of the windows have been destroyed by the action of the fire, but they can be replaced at no very great cost. Other parts of the stonework on the same front are much discoloured by fire, but this also can be remedied. The outstanding consolation is that the essentials of Gandon's great masterpiece, including Smyth's beautiful sculpture, have escaped, and those parts of the stonework damaged may be restored at no very prohibitive cost.

"The interior has, of course, been completely gutted by fire, but this also presents no serious difficulty in restoration; neither should its reconstruction involve any enormous outlay."

Law Reports

Balance of Builders' Account for House Building

Lavington (1916) *Ltd. v. Winch.*

May 26. Official Referee's Court.
Before Mr. Ed. Pollock.

This was a claim by Messrs. Lavington, a private company, for a balance of £720 12s. 8d. of a builders' account in respect of a house built by them for the defendant in Nightingale Lane, Rickmansworth.

Mr. Wootten, K.C., with Mr. Thomas, appeared for the plaintiffs, and Mr. O'Hagen was counsel for the defendant.

According to counsel's statement, the first item of the claim, £410 19s., and the last, £309 18s., arose under an agreement of the 14th of October, 1919, in respect of the building of the house, but the other items of £200 and £50 arose under a modification of the agreement. Originally, the agreement between the plaintiffs and the defendant provided for the price of the house to be on the basis of labour and materials, with 15 per cent. on the cost for profit and supervision. The services of an architect were not used, so that plaintiffs had to do all the architect's work. It was agreed that there should be monthly payments as the work proceeded, and upon completion there should be a final settlement. Payment was to be made at the rate of 7½ per cent. of the charge within ten days of the delivery of the accounts.

The history of the transaction was this: In August, 1919, defendant was introduced to plaintiffs, when he expressed a desire to have the house built. He told plaintiffs that he did not desire to employ an architect, and a rough design was accordingly got out for his consideration. That plan was for a house the estimated cost of which would be about £1,800. But while the discussions were going on defendant's ideas grew, and the size of the house and accommodation were considerably added to until plaintiffs reminded him that to carry out his ideas he would have to pay something like £2,500, and they offered to give him a free price contract or a costs plus contract. He chose the latter, but continued to make alterations, which increased the cost. That continued after the agreement was signed. The work was started, and the account submitted monthly and effectively checked. All went well until, in April, an account for £553 17s. 1d. was sent in, when the plaintiffs' manager was asked to meet the defendant. The defendant then informed him that owing, to goods being held up, he was unable to meet the claim at that moment, and asked for time. Mr. Lavington agreed. and a bill was sent for defendant to accept, but he did not accept it, as he had obtained money from his bank, and £500 was paid on account.

The defendant seemed to become anxious as to what the house was going to cost, and a revised estimate was got out, but it was stated that that estimate was merely approximate. It could only be approximate because at that time labour and materials were rising to an alarming extent. It was this approximate estimate which appeared to be the defendant's sheet anchor, because he claimed that it was a contract. At the same time the defendant raised the question as to the date of completion, but Mr. Lavington told him that it would be impossible to undertake to complete by June 21, especially as the many alterations increased the time occupied in carrying out the work.

At the same time it was pointed out that the house, which was started as an £1,800 house, had gone up to £2,500, and was, owing to alterations and additions, approaching something more like £4,000. The plaintiffs pointed out that they hoped the defendant would make arrangements for payment of the approximate balance of £1,800 which it would cost to complete. That seemed to have caused annoyance, as from that time forward nothing was right. In June defendant approached the plaintiffs and asked them if they would agree to complete the house for £600; if not, he would see if he could not get a friend to do it. The plaintiffs said they could not do it for a fixed price under the circumstances which then prevailed.

After evidence had been taken in support of the plaintiffs' case a consultation took place between the parties, resulting in a settlement of the action by consent, judgment being entered for plaintiffs for £550 with costs, the plaintiffs taking out of court the £200 paid in by the defendant in part settlement. A counterclaim by the defendant was dismissed with costs.

Builders' Claim for Balance of Rent

H. J. Cooper & Sons v. Fisher.

May 31. Official Referees' Court.
Before Sir Francis Newbolt.

In this case the plaintiffs, who are builders, brought an action to recover the balance of an account for the price of executing certain works and improvements to the defendant's premises at Maidenhead, called The Paddock, in the year 1919, work which chiefly related to the building of a new garage and repairs to the house.

Mr. Doughty appeared for the plaintiffs, and Mr. Valletta for the defence, which was a plea of contract and a denial of liability. From counsel's opening statement it appeared that the total bill for the various items, some sixteen in number, was £2,770, of which £900 had been paid on account as the work proceeded, leaving a balance of £1,870, in respect of which amount defendant had paid a sum into court with a denial of liability. The contract for the price of the work was contained in a few documents extending over a comparatively short period of time, but a great deal of the material matter in the case was the result of verbal discussion between the parties. On the 22nd of February, 1919, shortly after the Armistice, the defendant telephoned to the plaintiff firm stating that he desired certain work to be done, and as a result a member of the firm looked over the ground with a view to making an extension of the scullery and building a motor-shed, which was to be a one-story building with concrete walls. An estimate was prepared, together with plans, which were left with Mr. Fisher. The plan of the shed provided that one wall should rest upon an existing wall of an old shed, so that it would really be a three-wall structure. Mr. Fisher subsequently said that he wanted a four-wall shed, and fresh plans had to be prepared. The whole cost of the work was stated in the correspondence to be £550, but that was merely an expression of opinion, and not a binding contract, and as a fact nothing was done upon those plans or the suggested estimate. At the time they were discussing the garage Mr. Fisher said he wanted a greenhouse built. He purchased a second-hand one in the neighbourhood, which the plaintiffs had to remove, re-erect, and extend.

Sir Francis held that there really was no contract price, and that the approximate amount of £550 was given without plaintiffs' authority. And, moreover, the whole of the original contract had been put an end to because many alterations were made. The contract, in fact, was never in force at all.

A consultation took place as to whether the expert evidence as to price should be accepted.

Mr. Doughty, in the result, said that the parties had come to an agreement that judgment should be entered for the plaintiff for £1,552, including the £1,310 paid into court, and that this should be without prejudice to the defendant's right to appeal on the point of law regarding the question of contract.

The Official Referee said that, in view of the possible appeal, he would give a written judgment to that effect on a future occasion, in which he would embody his reasons for ruling on the question of contract.

R.I.B.A. Conference at Liverpool

In pursuance of the policy announced in the annual report, the Council of the R.I.B.A. have organized the first annual provincial Conference of architects, which will take place at Liverpool on June 24 and 25. The arrangements have been made by the Council of the Liverpool Society in consultation with a Committee of Presidents of the Allied Societies, and the Royal Institute is deeply indebted to those members of the Liverpool Society who have given their time and energy so generously in order to secure the success of the Conference. A very interesting and useful programme has been arranged.

The underlying idea of these conferences is to bring the London and provincial members of the Royal Institute into closer and more effective touch with one another, to enable the provincial members who cannot spare the time to attend many meetings in London to express their views on subjects of vital interest to the profession, and to bring home to the general public the organic unity of the organization of the architectural profession. It is therefore hoped that all members who can possibly arrange to do so will attend the Conference, and take this opportunity of becoming better acquainted with the views of their colleagues in other parts of the country. The following programme has been provisionally arranged :—

Thursday, June 23.—Members arrive in Liverpool.

Friday, June 24.—10 a.m., Official opening of the Conference and Reception by the Lord Mayor of Liverpool. 10.30. a.m. to 1 p.m., Papers, followed by discussion on : "The Unification and Registration of the Architectural Profession"; "Official Architecture"; and "Propaganda and Publicity." 2 p.m., Excursion to Port Sunlight and Bromborough Pool. 7.30 p.m., Banquet at the Midland Adelphi Hotel.

Saturday, June 25.—10.30 a.m. to 1 p.m., Papers, followed by discussion on : "Building Contracts"; "Architectural Education"; and "Present-day Building Problems." 2.30 p.m., Visits to Liverpool Cathedral and Cunard Building. 4 p.m., Tea at the Britannia Café at the invitation of Messrs. Willink and Thicknesse. 4.30 p.m., Trip up the River, arranged by the White Star Steamship Company.

Sunday, June 26.—11 a.m., Service in Liverpool Cathedral.

The headquarters of the Conference will be in the Conference-room in the Walker Art Gallery, where there will be an Exhibition of students' drawings.

Members of the Conference are requested to make their own arrangements for hotel accommodation. The hotels specially recommended are : The Midland Adelphi Hotel, The Exchange Hotel, The London and North-Western Hotel.

The Conference Banquet, at which ladies are particularly invited to be present, will be held at the Midland Adelphi Hotel. (Evening dress, medals, etc.) The price of the banquet will be 12s. 6d. each, exclusive of wine and cigars.

Members who intend to be present at the Conference are requested to communicate as soon as possible with the Secretary, R.I.B.A., 9 Conduit Street, London, W. 1., stating the fact and mentioning whether they will be present at the banquet, and whether they will be accompanied by any guests.

R.I.B.A. Reception.

An Afternoon Reception is to be held at the Zoological Gardens, Regent's Park, N.W., on Tuesday, June 28, 1921, by the President and the Council of the R.I.B.A. Members and guests are requested to enter the Gardens through the offices of the Zoological Society only. The reception by the President and Council will be held in the Library of the Zoological Society, from 4 to 4.30 p.m. The Great Lawn and the Fellows' Tea Enclosure will be reserved for the use of members and guests, and tea will be served there during the afternoon. The Band of His Majesty's Irish Guards will be in attendance.

R.I.B.A. Council Meeting.

At the last meeting of the Council of the R.I.B.A. the following business was transacted :—

The Scale of Fees for Housing Schemes.—The draft agreement with the Ministry of Health was approved, and a vote of thanks was passed in favour of Mr. James S. Gibson and other members of the deputation.

Report of the Unification and Registration Committee. — The resolutions passed by the Unification and Registration Committee on May 12 were approved and a sub-Committee was appointed to enter into negotiation with the Council of the Society of Architects.

Competitions.—The following Competitions were vetoed : Hagley War Memorial Competition, Salisbury War Memorial Competition.

Grants.—The following annual grants were made : Architectural Association, ordinary grant, £100; second instalment of grant of £500 to Endowment Fund, £125; Architects' Benevolent Society, £100; Atmospheric Corrosion Research, £10.

Report of the Official Architecture Committee.—The Committee's report was approved and ordered to be printed in the Journal.

The Industrial Council for the Building Industry.—Mr. James S. Gibson was appointed to represent the architectural profession on the Administrative Committee of the Industrial Council.

Publications Received

Everyday Uses of Portland Cement: A Practical Handbook on the Economical Employment of Portland Cement. Fourth Edition. Price 7s. 6d. net. Published by the Cement Marketing Company, Ltd., 8 Lloyds Avenue, London, E.C. 3.

The Photographic Journal. June 1921. Price 2s. 6d. net. The Royal Photographic Society of Great Britain, 35 Russell Square, London, W.C. 1.

"Red Books" of the British Fire Prevention Committee. No. 218, Fire Tests with Cement Concrete Floor. No. 227, Fire Tests with Reinforced Concrete Floors. Price 2s. 6d. each net. Copies may be obtained through any bookseller or direct from H.M. Stationery Office.

Correspondence

Registration

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Your last article on the above subject must have been sad reading for many members of the Institute who are in favour of a Registration Bill to prevent unqualified persons acting as architects. You tell us the Surveyors and Engineers have abandoned the idea of registration, and the Bill as outlined in your article would be of little use to Architects, for it would be limited to preventing a person calling himself an architect unless his name were on the register.

Our members, and particularly those who practise in the provinces, complain that architectural work is carried out by auctioneers and house agents and various stores, and the Bill if passed would be powerless to prevent the evil complained of. You refer to the protection of the public from quacks, but the auctioneers and house agents frequently have very clever qualified architectural assistants, and the work these men do is excellent; as far as I know there is no public demand for protection, and counsel for a Bill on the lines suggested would have considerable difficulty in pleading for the Bill on public grounds.

Can you help your readers still further, and in the following way :—

(1). Give us your idea of what a Registration Bill should be, so as to be of practical use to the profession.

(2). Obtain the advice of some leading Parliamentary Agents on the chance of a Registration Bill, in any shape or form, becoming an Act of Parliament.

THOMAS.

[These suggestions are having our attention.—EDS. A. J.]

Record House Building

Record-breaking in housing schemes since the war has generally been in the wrong direction, but a genuine attempt to build against time is reported from Port Talbot. A big housing scheme is being carried out near Port Talbot, in connection with Messrs. Baldwins' Steel Works. It was recently decided to put up two good-sized semi-detached houses for the managers of the firm, some eight miles away from the main job. Each house was to include an entrance hall, two reception-rooms, kitchen and scullery, four bedrooms and bathroom, with generous box-room and out-offices. The contractors, Messrs. John Laing and Son, of London and Carlisle, had a month in which to complete the houses, from damp-course ready for occupation. It meant sending out thirty men and all the necessary materials—chiefly "Winget" concrete blocks, with which both houses were constructed—by lorry every day from Port Talbot;-but workmen and foremen alike tackled the task in a sporting spirit, and actually completed the houses, even to the boundary walls, gates, and electric light, in thirteen and a half days. This surely is a record in post-war construction. The houses were designed by Messrs. Culpin and Bowers.

[he Conradé Exhibition

The Conradé water-colours now on ew at 29 Tothill Street appear in ch striking contrast to the exbition of Walcot's etchings which mediately preceded them, that com- rison is unavoidable. These artists' rks are, perhaps, at the extreme poles architectural interpretation. Mr. Wal- t could not easily put less into his awing; Mr. Conrade could certainly not it in more. Each drawing of his repays ose study, and one is, therefore, rather ankful that the number of pictures own is not larger; for, at any of the eat picture galleries, one is apt to ecome surfeited with too vast a collec- on

Most of Mr. Conradé's work is distin- uished by three striking characteristics. f these, "Caves of Elephants, India," o. 15, emphasizes the first—that almost riental relish for white sunlight and for ght in all its gradations, which, under s sympathetic brush, suffuses all his roductions with Eastern splendour. ere he contrasts the sunlit cliffs with e thick blue recesses of the cave; quite startling achievement of colour, yet voiding that hard French glitter which ppears in some of his work. The subtle rength of colour in the shadows, and e boldness with which the carved nages stand out against them are quite asterly effects; so, too, is the drawing f the elephant, a most delicate piece of ork, informed with a grace that is the econd of the three characteristics which re mentioned above as specially distin- uishing the artist's work. He has a ertain wayward, poetic fancy which is lmost unique amongst the artists of o-day, and for which, therefore, one is uly grateful. Indeed, it has been said, ather superficially, that Mr. Conradé is hundred years old—not that he is old- ashioned, but that he recalls the stronger ualities of a less decadent day.

"La Loggia dei Lanzi," Florence (No. 11) the most imaginative picture in the xhibition. Any one familiar with the ubject of this drawing will note that, ith artist's licence, the statuary has been noved from the centre of the loggia, here it actually stands, to the right-hand ide, the artist's object being to disclose he vista which ends in the high mysteri- us house wall with its faint shadow and s mist of moonlight. In so large a pic- ure, the one soft tone is as remarkable effect as it is masterly in intention; the hiaroscuro is dramatic; and the gigan- ic group of statuary bursting from the hadows, the helmeted warrior rearing, as t were, with his burden from a sea of rithing forms, provides a weirdly poetic limax, against which the serene little roup of human beings clustered dreamily corners, one playing a pipe—in low ones one would imagine—another re- ating some romantic tale to a maiden, how with a really powerful dramatic effect.

Dramatic sense is Mr. Conradé's third nd most strongly-marked characteristic. t is evident in all his work. He loves to it great cities against angry skies, to uggest at once the grandeur of human chievement, and the doom that broods ver it. He loves the dramatic effect of ight in a cathedral, the play of light cross lofty pillars, the innumerable nodulations of light and gradations of olour that are the magic wrought by vistas of traceried vaults and intricately-carved woodwork.

But it is the spirit of the building, the exaltation of its builders, the magnificence and mystery and variety which attract him more than the pomps and vanities of the high priests. Note the Church Dignitaries in No. 4 ("Henry VII's Chapel, Westminster")—how corpulent and prosaic they look in contrast to the poetry infused into the fan vault. This is a curious picture in every respect. It attracts and it repels. The colour, as in No. 1, "Interior of Milan Cathedral," repels at first, but soon reveals a peculiar fascination that waxes greater the longer one gazes. No. 3, "The Church of the Jesuits," is, on the whole, repulsive; yet here is, perhaps, the most exquisite passage of colour and draughtsmanship in the whole exhibition—the little figure group on the left of the altar. It looks like the work of an old master, but is, nevertheless, seen to be peculiar and personal to Conradé. His figure-work is usually delicious, though at times inclined to be hard and sculpturesque. Subsidiary, as it always is to the main masses of his picture, he yet composes it with tender care, and draws it with infinite trouble; sometimes it is too exquisitely neat, sometimes it is absolutely peerless.

One can imagine that some persons may casually dislike Mr. Conradé's unusual sense of colour, and that a few will not appreciate his sense of picture-making as displayed in his sculpture groups; but certainly every one must admire his consummate draughtsmanship, and the dexterity with which he subordinates a really enormous amount of detail to the essential masses of his composition.

H. DE C.

The Architectural Association House List

The following officers and Council of the Architectural Association have been elected for the session 1921–1922:—President: W. G. Newton, M.A., A.R.I.B.A. Vice-Presidents: Messrs. F. C. Eden, M.A., and E. Stanley Hall, F.R.I.B.A. Ordinary Members of Council: Major H. Barnes, M.P., F.R.I.B.A.; Messrs. Cyril A. Farey, A.R.I.B.A.; Gilbert H. Jenkins, L.R.I.B.A.; H. I. Merriman, A.R.I.B.A.; A.H. Moberley, F.R.I.B.A.; A. B. Ll. Roberts, A.R.I.B.A.; Manning Robertson, A.R.I.B.A.; L. S. Sullivan, A.R.I.B.A.; T. S. Tait, A.R.I.B.A.; and M. T. Waterhouse, A.R.I.B.A. Past President: Mr. G. Gilbert Scott, A.R.A., F.R.I.B.A. Hon. Treasurer: Mr. Stanley Hamp, A.R.I.B.A. Hon. Editor "Architectural Association Journal": Mr. M. J. Tapper, A.R.I.B.A. Hon. Librarian: Mr. G. G. Wornum. Hon. Secretary: Mr. J. Alan Slater, M.A., A.R.I.B.A.

At the same meeting the following new Members were elected: Miss P. J. Freeman, Miss A. Wolkoff, Miss E. G. Cooke, Mr. C. L. Pope, Mr. J. V. Downes, Miss M. Eshelby, Miss V. M. J. Martin, Mr. J. P. C. Chaures, Mr. E. A. C. Ricketts, Miss E. K. D. Hughes, Miss I. J. Macfadyen, Miss T. C. Stanley, Miss G. Gale, Mrs. Clark, Miss I. R. Harding.

Latest List of New Inventions

Latest Patent Applications.

13743.—Green, W.—Building blocks, slabs, etc. May 17th.

14234.—Rowse, J. A.—Manufacture of roofing and building materials. May 21st.

13974.—Wallis, J. E.—Building blocks, etc. May 18th.

Specifications Published This Week.

135180.—Renner, G.—Flushing cisterns.

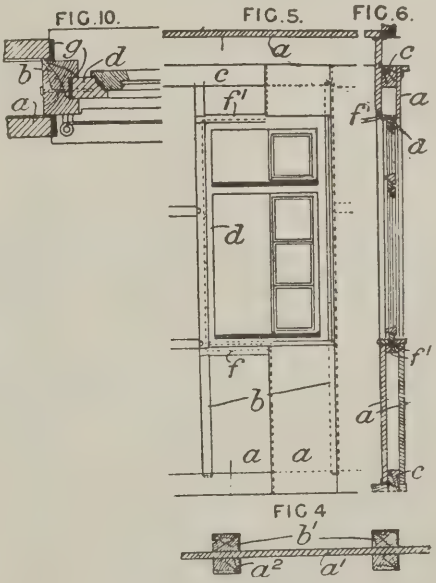
147619.—Kunz, A.—Arch construction, particularly for tunnel framework.

156532.—Fischer, F.—Roof trusses for halls and like buildings.

Abstract Published This Week.

161286.—Building construction.—Ollendorf, H., 6 Great Winchester Street, London.

Consists in forming structures such as dwelling-houses by covering the supporting framework *b*, *c*, Figs. 5 and 6, with planks *a* of the artificial wood described in Specification 13425/07, the planks, together with door and window frames *d*, being united to the supporting framework by the cement described in the above-mentioned specification. Fig. 10 shows the position of the cement *g* used to unite the window frame *d* and planks *a* to the supporting framework *b*. The window frame is cemented in a similar manner to the sill supports *f* and the breastsummers f^1. Fig. 4 shows an alternative method of uniting the planking a^1 to the framework b^1, screws a^2 being employed in addition to cement. Single or double walls as well as roofs and ceilings formed as described above are incorporated in the structure.



The above particulars are specially prepared by Messrs. Rayner & Co., of 5 Chancery Lane, W.C. 2, from whom readers of this Journal may obtain all information free relating to patents. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1/- each.

The Week's News

Islington Town Hall.

Islington Council is to be asked to approve the carrying out of the new town hall scheme at a cost of £330,000.

Wantage Rural Housing.

The Ministry of Health has sanctioned a loan of £500 to construct the roads and sewers at the Compton scheme.

The Jedburgh War Memorial.

Mr. James B. Dunn, A.R.S.A., F.R.I.B.A., Edinburgh, is the designer of the War Memorial for Jedburgh, now being erected.

York Exhibition Building.

The question of alterations to this building is still under discussion, and the Council has instructed the city engineer to prepare a fresh scheme.

New Theatre for Perth.

For the new Alhambra Theatre, Perth, the plans of Mr. A. K. Beaton, architect, Perth, have been adopted, and an early commencement will be made with the building work.

The Future of Cardiff.

The Ministry of Health has approved of the application of the Cardiff Corporation for permission to proceed with a town-planning scheme over a large area, to the south and west of the city.

Rebuilding of Empire Theatre.

The Empire Theatre in Leicester Square is to be rebuilt and considerably enlarged at an estimated cost of £175,000. Mr. Frank Verity, F.R.I.B.A., is the architect.

Selly Hill Parish Church.

It is proposed to extend the Selly Hill Parish Church, Birmingham, and thus provide about 150 additional sittings. The scheme, which includes a new vestry, is estimated to cost £7,000.

Welwyn Garden City.

The Garden Cities and Town Planning Association invite Members and Licentiates of the R.I.B.A. to pay a visit to Welwyn Garden City during the summer.

Tadcaster Housing.

It has been decided to erect 126 more houses in connection with the housing scheme, three of the extra sites being at Kippax, Allerton Bywater, and Micklefield.

Bungalow Built in Five Days.

Plans for a three-roomed bungalow were passed by Harrow Council on Monday, the building—of asbestos sheeting—was begun on Tuesday, and the tenants moved in on Saturday.

Leicester Housing.

Six hundred and fifty-two houses have been contracted for, and 101 have been completed and occupied. Sanction has been obtained for the erection of 40 houses on the Kimberley Road site at a total cost of £29,994 5s. 2d.

Housing at Colne Lodge.

The Housing Committee has decided to invite tenders for the erection of fifty houses on the Colne Lodge Estate, and that the committee be empowered to open and consider the tenders received and to submit a limited number to the London Housing Board for approval.

Surveyors' Institution.

Mr. H. Sabin has been elected President of the Surveyors' Institution. At the annual meeting of the Institution, in London, the new President said that he was the first who had risen from the ranks to that position, and he was proud of it.

North Wales Heroes' Memorial.

The President of the R.I.B.A., Mr. John W. Simpson, has nominated Mr. G. Gilbert Scott, A.R.A., F.R.I.B.A., as assessor in the North Wales Heroes' Memorial Competition, Bangor, in conjunction with Lord Plymouth.

Weetslade Housing.

A commencement has been made with the erection of 100 houses at Dudley, at an approximate cost of £100,000. It has been decided to make application for sanction to borrow £1,500 for the purchase of the site for the 100 houses to be erected at Seaton Burn.

Ex-Service Men as Builders.

The London Master Builders and Allied Industries Association are posting up a notice at every place where building operations are being carried on to the effect that the works are open only to men who are willing to work with and assist ex-Service men to learn a trade.

Development of Regent's Park.

The Portland Town Estate Company, which has bought 70 acres on the western side of the park, has a comprehensive scheme in view for modernizing the estate. The Company intends to rebuild various blocks, either as flats or non-basement houses.

King Edward Statue for Delhi.

The King and Queen have inspected, at a foundry in Thames Ditton, the new bronze statue of King Edward VII, which is shortly to be sent out to Delhi. The statue, the work of Sir Thomas Brock, R.A., is to be erected on a marble plinth and will stand 40 ft. high.

Institute of Scottish Architects.

At the monthly meeting of the Council of the Institute of Scottish Architects, held in Edinburgh, with Mr. A. N. Paterson, President, in the chair, approval was given to the circular about to be issued by local authorities in connection with the Town Planning Act, 1919, which makes town planning obligatory on large burghs.

Housing Progress in Scotland.

The following figures show the progress that has been made in the State-aided housing schemes in Scotland up to May 15, 1921: permanent houses completed, 1,607; houses built under reconstruction schemes, 67; temporary houses completed, 451; total, 2,125. In addition there are 11,425 houses under construction.

New Government Post Office, Chicago.

The mammoth new Government Post Office building at Chicago, the construction of which has just been begun, will have a roof upon which mail aeroplanes will be able to alight and to "take off." The building will also be connected by miniature underground electric railways with all the principal railway termini in the city.

New Secretary, R.I.B.A., Australia.

Mr. G. C. Inskip, F.R.I.B.A., has resigned the honorary secretaryship of the R.I.B.A. in Australia after a period of twenty years' service, and Professor Leslie Wilkinson, F.R.I.B.A., of the School of Architecture, University of Sydney, has been appointed to the position.

L.C.C. Central School of Arts.

The exhibition of students' work at the L.C.C. Central School of Arts and Crafts at Southampton Row, W.C., contains specimens of manuscript illumination as well as examples of architecture, wood and stone carving, pottery, embroidery, tapestry, silversmiths' work, bookbinding, printing, modelling, and drawing.

New School for West Bromwich.

After six years of stagnation building operations are to be resumed at the Cronehill School, West Bromwich. It is only proposed to complete a portion of the schools. The building was begun in 1914, but only a few feet of elevation had been reached when the war put a stop to it.

Houses for Attleborough.

A scheme for the erection of 100 houses on the northern portion of the land at Attleborough has been considered. The Housing and Town Planning Committee have decided to recommend the Council to approve the scheme, and that the borough surveyor be instructed to invite tenders for the erection of the houses and construction of streets.

Housing Rents Tribunal.

The Minister of Health announces that the Association of Municipal Corporations have nominated Alderman Sir Alfred Gelder, of Hull, as their representative on the Housing Rents Tribunal in place of Alderman C. F. Spencer, who recently resigned on going abroad. The Tribunal has been appointed under Article VII of the Local Authorities (Assisted Housing Schemes) Regulations, 1919.

A Correction.

In our report of the address of Mr. J. C. Dewhurst, F.R.I.B.A., to the Architectural Association of Ireland—published in our issue of May 11—the last two paragraphs should have been given as a quotation from an address on "Evolution of Architectural Style," delivered in 1913 by Mr. Ralph Adams Cram, the eminent American architect. We regret that, owing to an oversight, this was omitted from our report.

New "Garden City" Dwellings.

The first batch of the new garden city dwellings being built by the Blyth Council have been formally opened. Altogether the "lay out" comprises over 2,000 houses. Building operations commenced last year. The contractors are Messrs. J. Parkinson and Sons, of Blackpool, who have signed a contract for 250 houses, one-half of the number to be built in brick, and the remainder in reinforced concrete on the Parkinson-Kahn system.

Vednesday, June 15, 1921. Vol. LIII. No. 1380

THE ARCHITECTS' JOURNAL
& Architectural Engineer

With which is incorporated "The Builders' Journal"

SIR WILLIAM TITE (1719-1873)

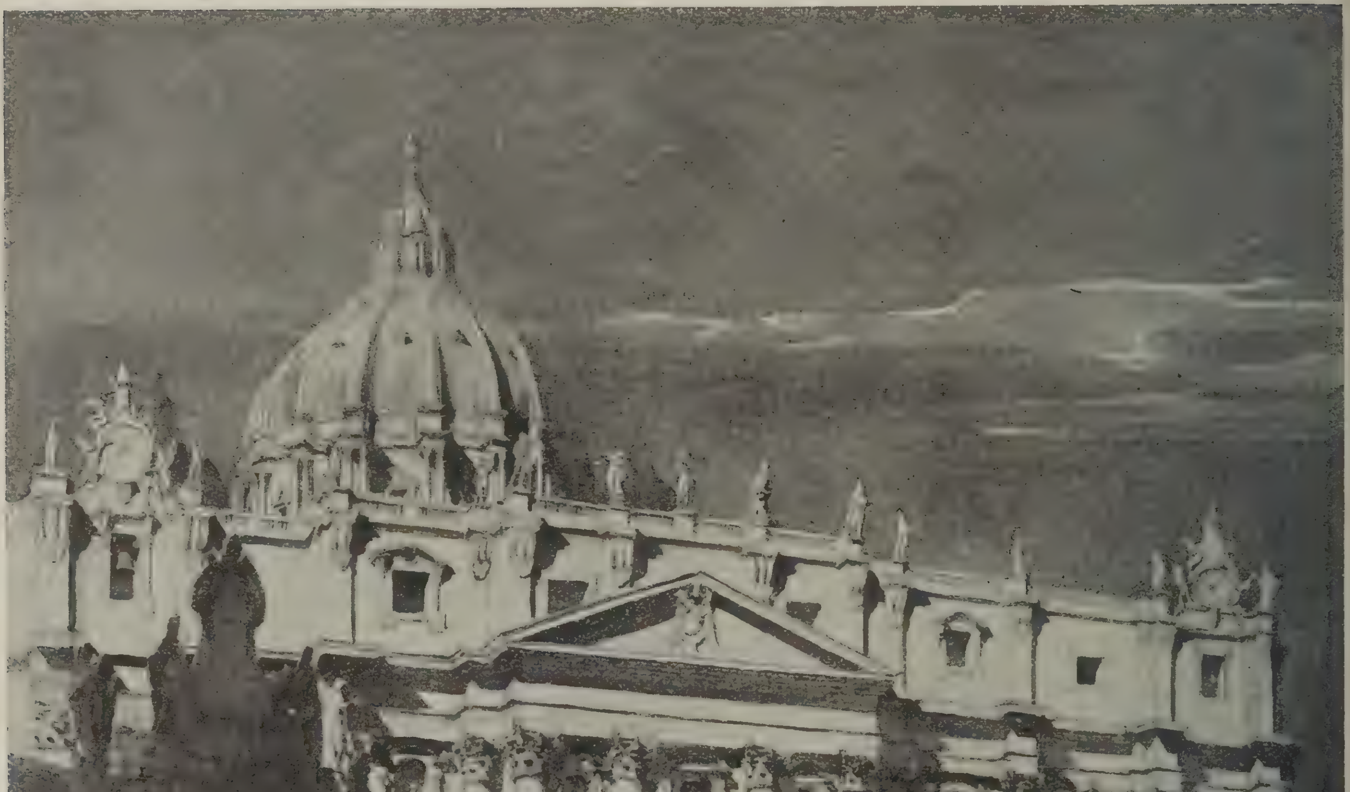
Sir William Tite was a pupil of David Laing (the architect of the London Custom House), and a foremost figure in the Classic Revival of the early nineteenth century. Chiefly known for his Royal Exchange building, the competition for which he won, in 1839, against four other architects, he carried out several important works in London, including the interior of the London and Westminster Bank, Lothbury, and the rebuilding of the Golden Cross Inn at Charing Cross (1832). He designed many of the early stations on the L. & S. W. R., as well as others in Scotland and in France. He was President of the R.I.B.A. during the years 1861-63, and again in 1867-70, and founded the Tite Prize.

27-29 Tothill Street, Westminster, S.W.1.

c

St. Peter's, Rome

From a Water-colour Drawing by A. C. Conradé



An Exhibition of Architectural Water-colours by Mr. Conradé is now being held at 27–29 Tothill Street, Westminster, where the original drawing from which the above reproduction is taken is on view. Some appreciation of Mr. Conradé's art appeared in our last issue.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, June 15, 1921

Volume LIII. No. 1380

Notes and Comments

Commerce and Architecture

IT is no more than a bald truism that a country owes its cultivation to its commerce. Education and the arts sink or swim with it. Law and luxury owe to it all that they have of refinement, while both may also be said to batten on it and grow gross. Although it is wealth, not poverty, that fosters refinement, it is an all too common experience that wealth is a power for evil as well as for good; and there is no question that it has given rise to much of the vulgar ostentation that is the converse of refinement. In the land of plenty, however, art at least gets its chance to thrive, but in the abode of poverty it is starved.

For the moment, Architecture has much more to apprehend from the anæmia of poverty than from the grossness of wealth; that is to say, the immediate prospect is that clients will be generally inclined to build sparingly rather than lavishly; and although stinted art may be no worse than luxuriant art, the latter seems to offer some advantage in being at least susceptible to pruning; and it may be remarked in passing that the architect, who is constantly abused for the badness of houses he never had a chance to design, never gets the slightest credit for the tact he exercises in saving the untutored client from indulgence in many and various sins against æsthetic propriety.

For the moment the architect's diplomacy will be mainly and almost exclusively directed towards the opposite effect. So far from trying to induce the wealthy client to discard superfluities, the architect will consume much valuable time in representing that the work should not be stinted, and this plea he will advance mildly and sympathetically as a gentle warning against the folly of false economy, rather than as a vehement protest against niggardliness. Nevertheless, such protest would be just where it was seen to be the result of following blindly and abjectly the epidemic craze for economy, rather than to be a dictate of necessity.

Commerce will soon become once again the ruling factor, or the predominating influence, in building. In a sense it has been that since the days of the Tudors, or even earlier—ever since war ceased to be the chief occupation of man, and the baronial castle gave way to the palace, the manor-house, and the mansion, and the traders and craftsmen outnumbered the soldiers. But no sooner have the arts of peace begun to flourish, and no sooner has commerce begun to wear an air of prosperity, than some disastrous outbreak of war has squandered the fruits of industry, hindering production and distribution, and, incidentally, substituting poverty for progress, hardship for comfort. To these seismic disturbances the building industry never fails to respond with extreme sensitiveness.

In our great towns, are not the corn exchanges, the banks, and the insurance buildings, so many indicators of commercial prosperity and progress? And surely they have the further significance which it is here the chief object of this article to emphasize. They, rather more markedly than the other important business premises, portend one of the most important effects of a tremendous business expansion that must happen as a rebound from the slackness and the wastefulness brought about by the Great War and other reactionary influences.

It would seem that the world wags very much as Nature hints in her lull before storm, her diastole and systole, her incoming and outgoing tides, her phases of the moon, her alternations of sunshine and gloom; and just now the shock of violent energy has been followed by a dead calm in the building and many other industries—as if, to change the figure, the battery had "run out." But the forces are accumulating for an effort that will be the more vigorous for the spell of rest. And in Architecture, as in most other things, the movement will take a new direction. Whence will it get its impulse, inspiration, direction? Assuredly from Commerce. Not from what is unfavourably known as Commercialism, which is a welter of mean sordidness, but from the Commerce that has become even now an heroic and dignified figure that sculptors love to model. Wise traders, fully aware of the dignity of business, are living up to ideals that are by no means ignoble, and are building accordingly. They profess and pursue high principles of honour and integrity, and are striving to give these principles appropriate architectural expression. Among business men of the better sort there is a great spiritual awakening, with a clearer perception of the value and significance of Art in all the relations of life. Hence it is not difficult to discern that the next great wave of impulse that will revive and re-vitalize architecture will come from Commerce, which may be confidently expected to develop to yet more stately issues the very respectable traditions in building it has already established.

A "University City" for Paris

Paris has set London a great example in the treatment of metropolitan universities. It has started a scheme for the creation of a "University City." By the demolition of fortifications near the Parc de Montsouris, a site of rather more than twenty-two acres—about twice the area of Kennington Oval—will be transferred to the University of Paris, for a consideration of some £270,000. On it will be erected hostels for students of the Quartier Latin. A restaurant, a library, and a recreation-room come into the scheme, which is estimated to cost about £1,600,000. About 2,000 students (both sexes) are to be accommodated, thus solving a serious housing problem that has too long beset the Quartier Latin. M. Deutsch de la Meurthe has given a donation of £200,000 toward the scheme, and support is promised from Canada, Sweden, and Argentina. All this should serve as a powerful incentive to push on with the scheme for London University—and to follow the example of M. de Meurthe. A further hint is that, as a university is not a local institution, but has almost the ample reach implied in its name, that for London, receiving as it does students from all civilized countries, should, like that of Paris, be liberally helped from abroad, especially in the matter of hostels. In his eloquent yet very practical speech at Cardiff the other day, the Prince of Wales stated very clearly the case for hostels. Oxford, Cambridge, and Dublin, he said, were the only universities in Great Britain which provided for collegiate residential life, but when women students were admitted it at once became apparent that residential hostels under proper supervision must be established for them. When at length the London scheme emerges from mere nebulosity, the Prince's hint and the example of Paris will affect it rather profoundly.

Birthday Honours for Builders

Although, as usual, architects seem to have escaped the attention of the King's advisers on the names to be included in the list of birthday honours, it is some slight consolation to find that eminent builders have not been entirely overlooked. Sir Frederick Gill Rice (to give him his new title) is so well known as a very prominent member of the London Master Builders' Association and of the Institute of Builders and has rendered such distinguished service to the Government as an expert adviser—of course in an honorary capacity—on its numerous and knotty building problems, that he may be safely said to have richly deserved the honour for strenuous work in several capacities. Sir Howell James Williams has earned his knighthood almost as much by his activities as a busy building contractor with a keen eye to the elevation of the industry, as by his work as deputy-chairman of the London County Council. But why this continued coldness towards the Profession of Architecture ?

"The Last Word in Post Offices"

A new Post Office building in Chicago suggests this heading, which is quoted from a communication cabled to "The Times" by its New York correspondent. Perhaps "latest" would be an improvement on "last," but, at any rate, the building seems to justify a flamboyant headline. A roof on which mail aeroplanes will be able to alight and to take off; connexion by underground electric railways with all the principal railway termini in the city; communication between the various departments by means of moving bands carrying mail sacks all over the building—these are some of the features that are assumed to make the title clear and valid. They show enterprise rather than invention; but their introduction is likely to leave our Post Office authorities cold. Their idea, for the moment, is not to increase efficiency, but to raise rates, and to the disquieting rumour of the Chicago "last word," they will turn a deaf ear. Yet the object-lesson, properly learnt, would mean salvation for the G.P.O. More efficient buildings and incomparably more scientific and up-to-date methods and equipment would speedily double their revenue.

Lead-poisoning and the House-painter

So-called lead-poisoning may not be what it seems. Sir Kenneth Goadby, a Home Office expert of extensive experience in the investigation of industrial diseases, has stated, in a lecture delivered at the Society of Arts, that he has found it difficult to understand the large proportion of fatal cases of alleged lead-poisoning among painters. He believes that in many such cases "the usual painter's colic, so often contracted by breathing the air of newly painted rooms, is really turpentine poisoning." If this were not so, it would be difficult to account for the fact that painters, rather than paint-makers, are the chief sufferers from this dreadful disease. Another disease common among painters—the hardening of the arterial tissues, with consequent dangerously increased blood-pressure—Sir Kenneth attributes to the inhalation of turpentine vapour, and, indeed, he may be said to have established the fact by experiment. His findings throw a new light on the lead-paint controversy, for it would now seem that an innocuous substitute for turpentine is even more desirable than it is for lead. This is a flat contradiction of the common belief among working house-painters that turpentine has health-promoting properties—has, as they express it, "a healthy smell." The Home Office or the Ministry of Health should promptly circulate among paint-users a leaflet correcting this very dangerous popular delusion; for it is officially reported that sixteen fatal cases of alleged lead-poisoning among house-painters and plumbers in Great Britain have been brought to the knowledge of the Home Office during the present year, and doubtless there must have been many other cases that, although they may have caused much misery and suffering, were not reported.

Dilution and the Federation

An ill-timed complaint, in "The Westminster Gazette," of delay in getting to work with the employment of ex-Service men in the building industry has been followed by a just if not altogether dignified, retort, in the same organ, by Mr. H. Bryant Newbold, Editorial and Organizing Secretary of the National Federation of Building Trades Employers. Mr. Newbold says, rightly enough, that, industrial conditions being what they are, "men already employed being turned away because their brother-workmen will not permit the possibility of their work being done," it is unfair to expect that work can be immediately found for an army of dilutees. Even if conditions had remained normal, a reasonable time should be given for so vast a scheme to mature; but the British public, and especially the political section of it, has all the virtues except patience. If Mr. Newbold had taken this foible into consideration, he would have dealt more gently with the journalist who has attempted to make a little political capital out of it.

Bristol's New School of Architecture

The recent acceptance by the Prince of Wales of the Hon. Fellowship of the R.I.B.A. was welcomed by the profession and by the discerning amongst the laity as a happy sign of the times, a portent which assumed added significance when His Royal Highness formally opened the Royal West of England Academy School of Architecture in Bristol last week. Prompted by the Architectural Association, in the person of Mr. Maurice E. Webb, its then President, and in response to the appeal of local students, the Bristol Society of Architects set itself, during 1920, to the task of creating in Bristol, as a centre for the West of England, a school which, whilst satisfying the ideal as to control, should be founded on a basis broader and more enduring than could be secured by mere sectional effort; and should, moreover, by providing against the segregation of its students in an atmosphere purely technical, aim at those best results recognized as unattainable within narrow technical limits. The school, the system of which admits of a combined training of apprenticeship and school work, is, by a happy and appropriate arrangement, affiliated with the school of the Architectural Association; and it is under the head-mastership of one of the brilliant young masters of the Association school, Mr. H. Chalton Bradshaw, A.R.I.B.A., winner of the British Prix de Rome, 1913, that it has begun its career. All success to the new school.

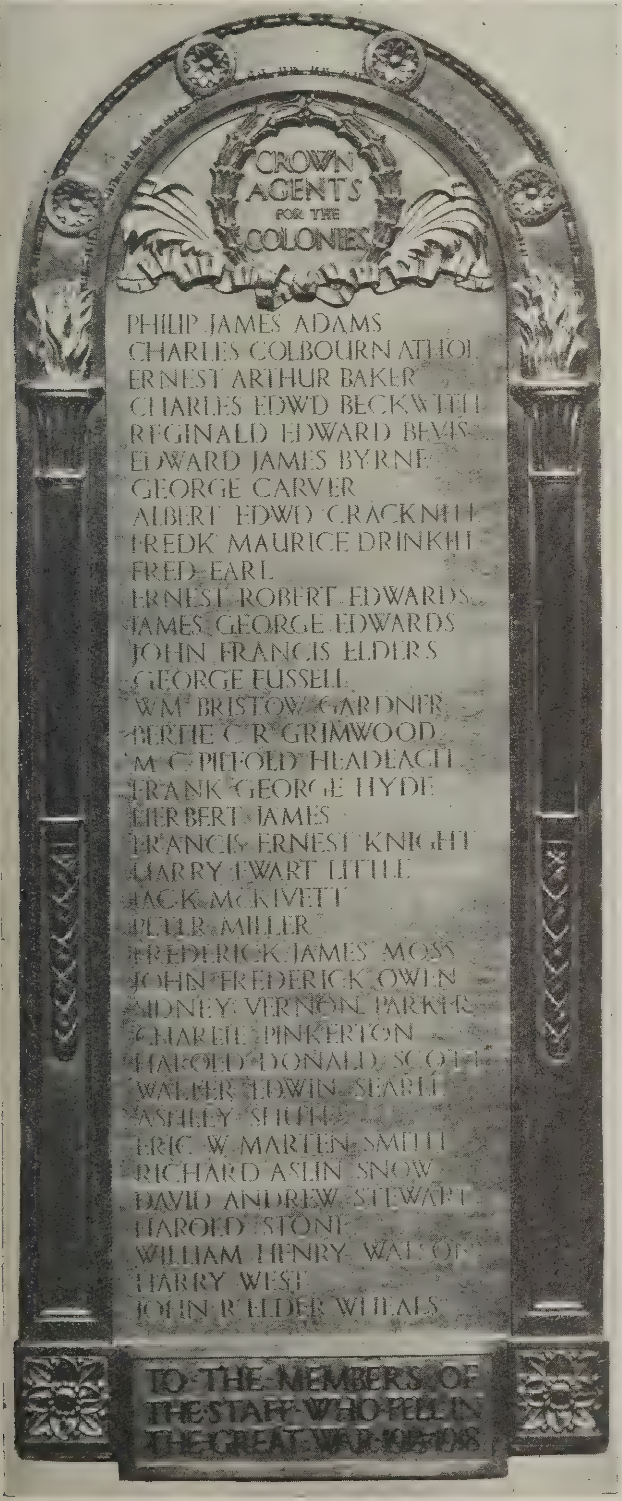
Belfast Parliament House

In designing the City Hall for Belfast some years ago, had Sir Brumwell Thomas, we wonder, a premonition that the building would be put to higher uses ? It serves admirably as the Irish Parliament House, and certainly has quite as much dignity as it could have had if it had been designed specially for the fulfilment of this high function. In its dome and in some other particulars it is more than faintly reminiscent of St. Paul's Cathedral, and is no whit the worse for that. Its architect is to be congratulated on the honour which has overtaken it, for more commonly buildings suffer degradation than aggrandisement from the uses to which they are successively put as they grow older.

Architectural Causerie

Mr. Michael Waterhouse

At the meeting of the R.I.B.A. last week, when the Council and members of committees were announced for the ensuing year, Mr. John W. Simpson said that there was one name which all would agree could not be allowed to pass without comment—that of Mr. Michael Waterhouse, elected for the first time to the Council, for he was a grandson of the Institute's distinguished past President, Mr. Alfred Waterhouse. Felicitations to the new Member of Council.



CROWN AGENTS FOR THE COLONIES WAR MEMORIAL
DESIGNED BY JOHN W. SIMPSON, P.R.I.B.A.

Chambers's "Temple of the Sun"

On the occasion of a recent visit to Kew Gardens we were surprised to find that no attempt has been made to repair Sir William Chambers's "Temple of the Sun," which was crushed by a falling tree some considerable time ago. The podium only remains—a pathetic object of curiosity to visitors who know nothing of the elegant little structure that once graced the spot. At a time when our public departments are willing to squander money upon all sorts of grandiose and unnecessary projects, it is odd that a few pounds cannot be spared for the reconstruction of Chambers's delightful little building, which was admirably in keeping with its environment.

"Fashions in Architecture"

Things that persist and things that change were the theme of Mr. Goodhart-Rendel's charming address on "Some Fashions in Architecture," which formed the last of the series of six Thursday afternoon lectures at the R.I.B.A. last week. The lecturer touched upon the sad history of Renaissance architecture in England, of which the abomination of German ornamentation was a manifestation. The Elizabethan age, too, was not without its horrors. The "fancy" style, he said, blossomed at the Great Exhibition in 1851. The craze for mechanically made adornments was part of the creed of "art for the masses," and it was still with us in some of our hotels and cinema theatres. Mr. Goodhart-Rendel insisted that an improvement in our architecture must be made, or posterity would be ashamed of the work of their ancestors. The abnormal pressure on our space compels us to hold over a report of Mr. Goodhart-Rendel's address until next week.

Architects' Travelling Expenses

Questions have been raised with the Ministry of Health as to the payment of architects' travelling expenses in connection with national housing schemes. The scales of fees given in general housing memoranda, it should be noted, are inclusive scales covering all out-of-pocket expenses, but it is recognized that special provision should be made for cases in which the architects' duties involve a considerable amount of travelling. The Minister of Health has now decided to allow as a charge to the Housing (Assisted Scheme) Account reasonable travelling expenses for journeys over twenty-five miles from the architect's office which are necessitated by the architect's duties in connection with a housing scheme.

Abandoned Housing Work

An important memorandum has just been issued by the Ministry of Health concerning the fees payable to architects for the preparation of plans in connection with State-aided housing schemes which are abandoned after approval. The terms and conditions set out in the memorandum have been agreed by the R.I.B.A. and the Society of Architects, and will apply in every case except where an agreement providing for specific payment has been made between the architect and the local authority. We hope to publish the memorandum in full in our next issue.

A War Memorial by Mr. Simpson

The war memorial shown in the accompanying illustration has been designed by Mr. John W. Simpson for erection at the offices of the Crown Agents for the Colonies, 4 Millbank, S.W. 1. The work has been admirably executed by Messrs. H. W. Cashmore & Co.

A Prize for the Best Façade of the Year

IT is in accord with the perverse operation of the British mind that the architects of these isles should have become obsessed with French ideals and French educational methods at a period when French architecture and French art generally have lost much of their claim to special distinction.

No doubt the friendly contacts of war have had much to do with the movement, but the tendency was apparent before 1914, and the results are manifest, in some aspects divertingly so.

To this gale of French inspiration may conjecturally be referred the revival of a suggestion that the Royal Institute should offer an annual prize for the best façade of the year, the adjudication to be by the standing Art Committee of that body; if Paris award such a premium, can London lag behind?

No one can doubt that public concern with architects and their work has of late notably increased. Architects are, for instance, taking a forward place among the heroes of fiction. Mr. Galsworthy's unsatisfying Bosinney has had many successors, to name only Mr. Beresford's progeny and Mr. Bennett's engaging young George Cannon. More symptomatic still is the attitude of a section of the Press which is seldom at fault in following or anticipating popular interests; and it may be noted that the substantial "Observer," on the subject of the deplorable destruction of the Dublin Custom House, writes eulogistically of that masterpiece and its designer as if it assumed on the part of its readers acquaintance with the name and fame of Gandon.

All this is gratifying, and anything is to be welcomed which aids toward spreading wider knowledge of the "Art of Well-building," nor are any means to be neglected which may tend to raise the standard of our street architecture. How far, however, the proposed prize would serve these ends it is hard to forecast.

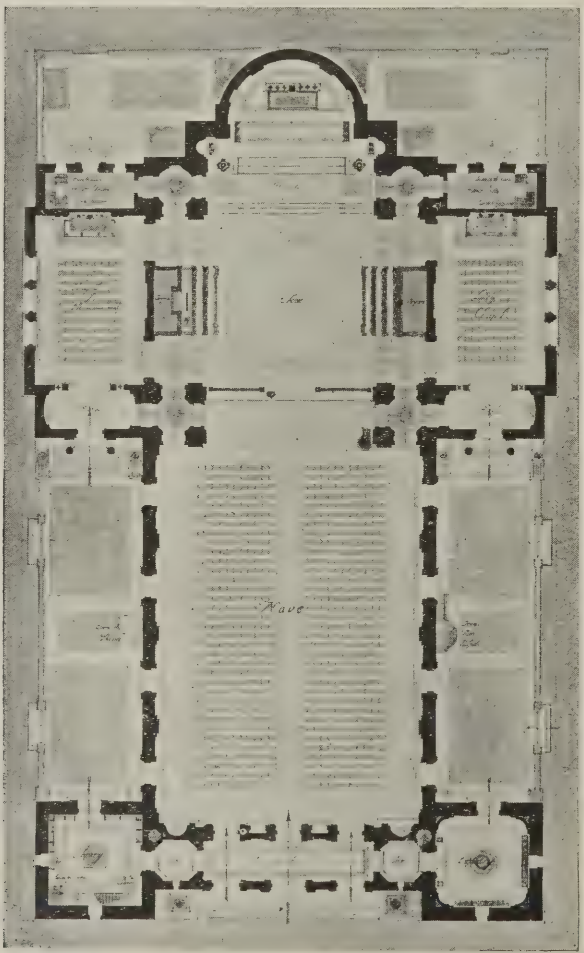
Deplorable as is the general level of British civic art, signs of steady improvement are even now not wanting. Kingsway may be cited as showing examples of design that would not discredit an American or German city. But is it to be thought that the off-chance of an Institute prize would really afford stimulus to an artist capable of first-rate work, or that your ordinary building owner would relinquish the lasting advertisement of an aggressive elevation for the transient halo of official commendation?

Nor is an Institute Committee of necessity the best of judges. Such a body, adjudicating on the work of professional brethren, is in an invidious and delicate position; the parallel of the Chantrey bequest needs no pressing.

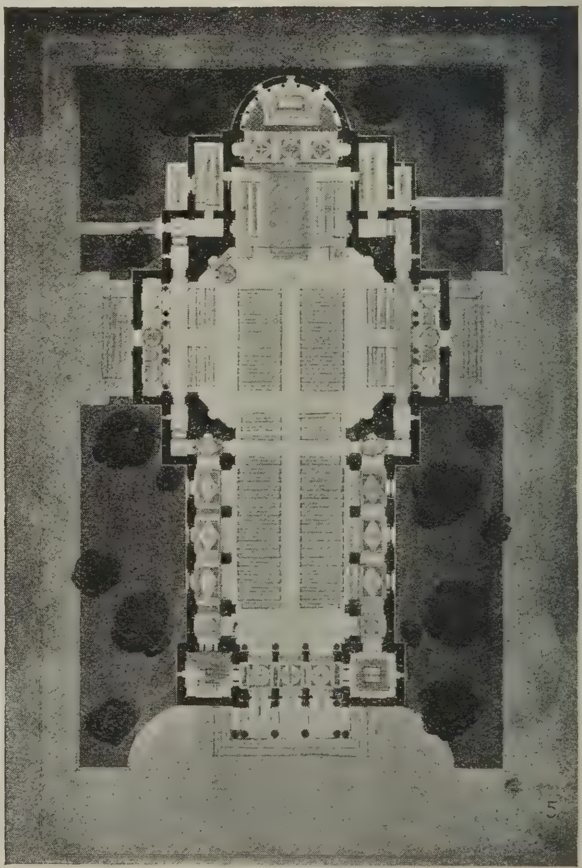
Indeed, to find a suitable tribunal would be no light task. An architectural plebiscite obviously would not do, and, though either would doubtless carry it through with the competence of experience, the matter could hardly be left to popular daily or weekly newspapers.

Seriously, the proposal is full of pitfalls, and, if adopted, might easily end in fiasco. Official awards of merit—and their recent abuse only confirms the statement—have no great weight with the British public. The well-being of architecture may best be served by concentration on the less spectacular methods already in action, the leaven of which is even now visibly working both in the profession and among the people at large.

ALLEN FOXLEY.



By S. ROWLAND PIERCE.



By E. W. ARMSTRONG.

ROME SCHOLARSHIP IN ARCHITECTURE, 1921: PLANS IN FINAL COMPETITION.

(See page 738 et seq.)

Architectural Office Administration

By FRANCIS LORNE, A.R.I.B.A.

(*Continued from page* 698, *No.* 1379)

Enclosures in Letters

The matter of enclosures in letters is very frequently a source of annoyance. Messrs. Tollit and Harvey have a very excellent form of enclosures stamp, gummed on the back for fixing to letters, something like form No. 12, perforated in the centre, the one-half of the stamp being fixed to the enclosure, and the other half bearing a similar number to the covering letter. In this way difficulties are overcome in the misplacing of enclosures.

Enclosure. No. 121.	Enclosure. No. 121.

FORM Nº 12

Minutes of Meetings

A minute should be prepared of each meeting either in or away from the office. This minute can easily be dictated after such a meeting, and filed in the correspondence file, in the holder for minutes. It has been found by many architects to save much misunderstanding to have a minute of meeting posted to the persons with whom the meeting was held. A typical minute of meeting is given on form No. 13.

It has often been found helpful in remembering the various matters to be taken up with a client or contractor at a meeting, also as a great preventive against wandering in discussion, to have an agenda of questions under discussion prepared. A typical form No. 13A is shown.

Each minute of meeting, and agenda of same, should be signed by the person in the firm responsible for the meeting.

HOUSE FOR GEORGE BUCHANAN, ESQ.

Minute of Meeting at Site, 3 March, 1921.

Present—MR. GEORGE BUCHANAN.
MR. JAMES GORDON.
MR. THOS. JONES, *Surveyor.*
MR. ROBERT PEARSON, *Contractor.*

Met Mr. George Buchanan at the site this morning at 10.30, according to appointment, and went over with him..............
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....
....

Meeting adjourned, 11.15 a.m.

JAMES GORDON.

FORM Nº 13

HOUSE FOR GEORGE BUCHANAN, ESQ.

Agenda for Meeting with MR. THOS. JONES, *Surveyor,*
at 21 George Street,

3 March, 1921.

(1) ....
....

(2) ....
....
....

(3) ....

(4) ....
....
....
....

(5) ....
....

(6) ....
....
....
....

N.B.—To be attached to Minutes of Meeting and filed with same.

FORM Nº 13A

Office Diary

In the secretarial section of the office a large-sized office diary should be kept, having one page to each day, in which should be recorded any matter of importance regarding outgoing or incoming drawings, correspondence, requests for interviews or appointments, etc.

Doomsday Book

A large loose-leaf book, which, perhaps for want of a better name, is here called the "Doomsday Book," should be kept. This should be a large loose-leaf book with alphabetical index, and in this should be placed all general information found by the firm to be valuable, especially any information which the firm has learned by hard experience, and does not wish to repeat. This might include the cost of buildings, the cubic and superficial space required per person in hospital, school, concert hall, or theatre, the spacing of tables in a restaurant, the area of elevators relative to floor space in an office building, etc. In course of time a fund of useful information may be tabulated.

Card Index

(Secretarial Section)

A card index should be kept in the secretarial office for each building, and for a record of each person concerned with same, giving the name, art, profession, or business, home (if necessary) and business address, telephone number, and any general information of interest regarding that person, such as his sports, club, rank, etc. This applies to clients, surveyors, lawyers, accountants, engineers, city or local authorities, or contractors, etc. A sample card is given on form No. 14.

OFFICES—70 MAIDEN LANE.

TIFFANY (E. F., ESQ.) (*Client*).

Financier

Business Address

Telephone Telegrams

Home Address

Telephone

File Nos.

General Information—Clubs, Sports, etc.

FORM No 14

Record of Staff

A similar record should be kept of each member of the staff, giving home address and telephone number, if any, the salary paid, any degrees he may have, his age and general description. Should the man or woman leave the office, this card should be filled in, stating the reason for leaving, etc., and be filed among the dead cards. See sample form No. 15.

ASSISTANTS' FILE.

THOMPSON (JAS.), A.R.I.B.A.

Address—16 Hanover Street, N.W. 4.

Telephone No. 1422 North.

Age ......

Qualifications

Salary

Commenced work ...... Date

Left Office ...... Date

Reasons for leaving

FORM No 15

Catalogue Index and Filing

A card index of all catalogues should be kept, one index being the "makers" index, giving the name, address, and telephone number of the manufacturer, and a list of his products. See sample form No. 16. Also a "materials" index, giving a list of the manufacturers making a particular product. See sample form No. 17. All catalogues should be filed in a vertical file under the names of manufacturers.

No. 16.

CATALOGUE INDEX.

(Makers' Index.)

(*Catalogues filed under names of Makers.*)

HUBERT FIREPROOF BRICK AND PARTITION CO., LTD.,
128 New Street, London, W. 1.

Telephone No. West 2120.

Filed under "H"—Fireproofing Steel.
Partitions.
Bricks.

FORM No 16

No. 17

CATALOGUE INDEX.

(Materials' Index.)

(*Catalogues filed under names of Makers.*)

Fireproofing Steel—Hubert Fireproofing Co.
Johnson & Edwards, Ltd.
Thomas & McCall.

FORM No 17

Salary Receipt Book

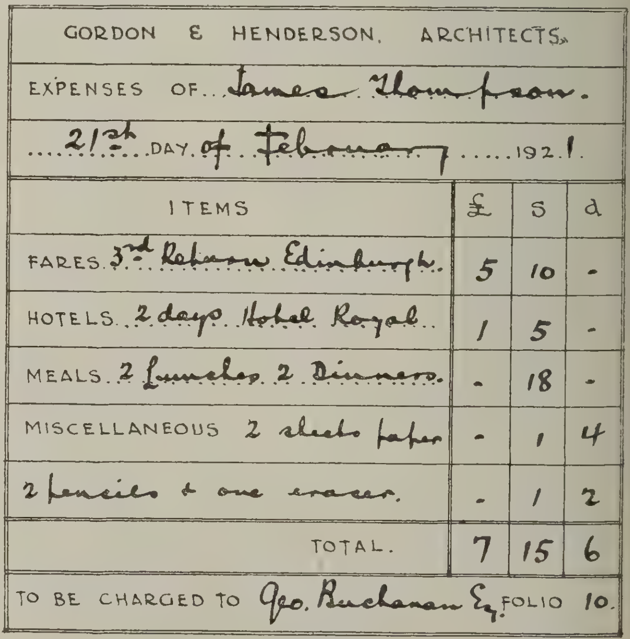
A receipt book should be kept for the signature of all members of the staff who receive their salaries in cash, as a precaution of this kind has been found on more than one occasion to prove the receipt of money paid to members of the staff. When the money is paid in the form of a cheque this is not essential, as the cheque passed through the bank will be sufficient receipt for a payment. In place of a book, a printed slip can be enclosed in the envelope with the cash, to be signed by the recipient, and returned to the person in charge of the secretarial staff.

Forms for Record

The following is a list of various forms for expenses, extras, and credits to contract amounts, etc. :—

Form for Expenses

Form No. 18 gives a suggestion for an expense card, which should be filled up each time a member of the firm has any claim for travelling expenses, etc., and should be filed for reference and the amount charged to the client or to overhead expense as the case may be. In every case receipts for hotel rooms, etc., should be attached to this form so that the auditors may inspect them.



GORDON & HENDERSON, ARCHITECTS.

EXPENSES OF James Thompson.

21st DAY of February 1921.

ITEMS	£	s	d
FARES 3rd Return Edinburgh.	5	10	-
HOTELS 2 days Hotel Royal	1	5	-
MEALS 2 lunches 2 Dinners.	-	18	-
MISCELLANEOUS 2 sheets paper	-	1	4
2 pencils & one eraser.	-	1	2
TOTAL.	7	15	6

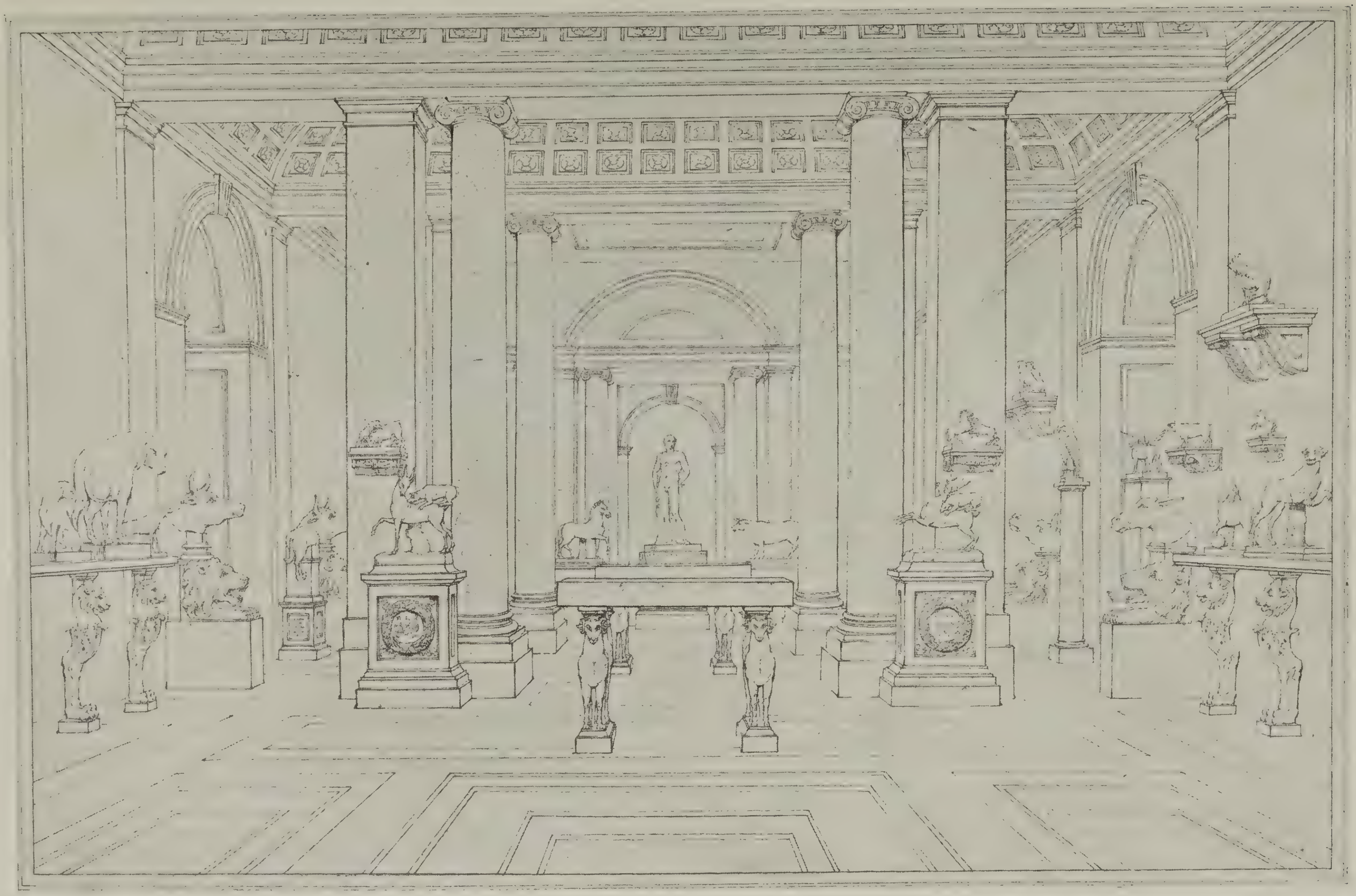
TO BE CHARGED TO Geo. Buchanan Esq. FOLIO 10.

FORM No 18.

(*To be continued*)

Monumental Architecture. 3.—Museum of the Vatican, Rome: The Hall of Animals

From a Drawing by James Hakewell.



James Hakewell published his "Outline of the Principal Galleries of Sculpture in Italy" in 1818. It consists of a number of very delicate line-drawings beautifully engraved by H. Moses, the above being a characteristic example. The position of this fine apartment is shown on the plan reproduced on page 733.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Professorship and Public Recognition

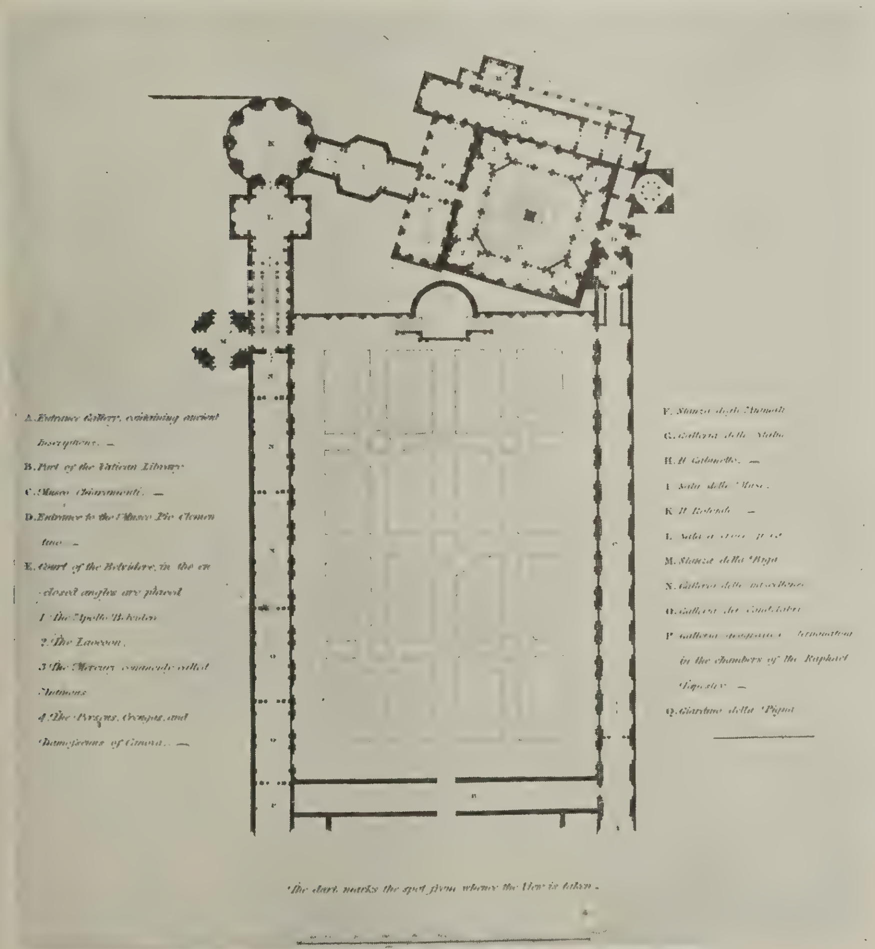
By H. BARTLE COX, A.R.I.B.A.

(*Ancien élève atelier Laloux, Paris*)

WE architects often complain of public indifference. The remedy lies in our own education. Civic pride exists, but architects do not effectively solicit the co-operation of administrative bodies. In France, the profession has more public recognition because of its more logically conceived *organization* for the training of architects.

In education, as in commerce, *centralization* is irresistible. It has many drawbacks, yet remains the best of all imperfect systems. Regional architecture, with all its petty charms, was merely the happy result of costly transport. It is now doomed to uniformity and improvement. It is playing second fiddle because the local masters are unfortunately at present not up to the required standard. When a sufficient number of professors are sufficiently well equipped with educational rather than practising qualifications, then the localities may again be in the position to develop something worthy of the locality.

French architectural education is a matter of encouraging personal effort rather than the imposing of individual opinion. The Ecole des Beaux-Arts is not a teaching institution in the English sense. It is a "Centralization" of the schools (ateliers), its characteristics being: Co-operation among students, representation for judging, solicitation of the public. For this, the results, whether good or bad, are necessarily more "National" than in any other country. Advocates of British nationalism in architecture could not do better than study the organization of the Ecole des Beaux-Arts. If a similar thoroughness is impossible without a Ministry of Fine Arts we can at least inspire from its methods of education. A progressive series of *Programmes* (subjects) is proposed by a man who has made a special study, not so much of the subject in question, as of the method and object of setting the subject. The different *Ateliers* (schools) all send in *Projets* (designs) for the same programme, whether elementary or advanced. The projets are publicly exhibited in order of merit after being judged by a large representative jury, and awards made accordingly. The student's place in the *Concours* (competition) is a great lesson. This method has its shortcomings and outshines all others. The guilds are gone; and the pupilage system, the best so long as there was nothing better, bids fair to be discredited as a premium stunt. Parents and the public have reason to support the colleges and culture.


A. Entrance Gallery, containing ancient Inscriptions. —
B. Part of the Vatican Library
C. Museo Chiaramonti. —
D. Entrance to the Museo Pio Clementino. —
E. Court of the Belvidere, in the enclosed angles are placed
1 The Apollo Belvidere
2 The Laocoon.
3 The Mercury commonly called Antinous
4 The Perseus, Creugas, and Damoxenus of Canova. —
F. Stanza degli Animali
G. Galleria delle Statue
H. Il Gabinetto. —
I. Sala delle Muse.
K. Il Rotondo —
L. Sala a croce greca
M. Stanza della Biga
N. Galleria delle
O. Galleria dei Candelabri
P. Galleria in the chambers of the Raphael Tapestries —
Q. Giardino della Pigna
The dart marks the spot from whence the View is taken.

PLAN OF THE MUSEUM OF THE VATICAN, ROME.
(*See page* 731.)

At the Ecole des Beaux-Arts the professor entrusted with the setting of programmes is called the professor of the theory of architecture. This responsible position is now held by Monsieur Victor A. Blavette, Grand Prix de Rome (1879), Architect to the Louvre. He succeeded Julien Guadet, practising architect of equal reputation, and the much esteemed author of the most excellent "Eléments et Théorie de l'Architecture (Cours professé à l'Ecole Nationale et Spéciale des Beaux-Arts)," an invaluable work of the greatest importance to all modern architectural students, no matter of what nationality.

The French have the advantage of a tradition that architectural education is a science in itself, not picked up in offices, nor necessarily understood by brilliant students. A well-known practising architect may not by temperament be suitable to organize educational courses. It is a branch apart. However, the theory of the Ecole is to turn out practical men. Universities should therefore demand something more than mere teachers liable to lapse into prosy pedagogues.

From serious technical conversations with Monsieur Blavette and with Monsieur Jules Godefroy (Member of the Council at the Ecole des Beaux-Arts), who are in no way responsible for this message, I gathered the following helpful conclusions with reference to the drawing up of programmes :—

1. In principle, they should be mainly theoretical.
2. They should aim at developing artistic imagination.
3. Their object is to train architects rather than contractors.

Nevertheless, architectural education has to be adapted to at least three categories of students—Elementary, Intermediate, Advanced. All must pass through the elementary stage, a few become advanced, the majority remain intermediate.

Programmes for elementary students should tend to educate them, irrespective of practice, in the first principles of composition (plan, section, elevation, considered together), the use of the orders, in the appreciation of proportion, and the rendering of effect. Scientific construction can scarcely yet be expected. Students' imagination should not be hampered by petty considerations of a commonplace nature. The aim in this category is essentially artistic and theoretical.

Advanced students are supposed to have some practical experience, to have worked in offices, to have studied stereotomy and other building sciences, besides to have submitted solutions for some of the special programmes dealing exclusively with construction. They are then in a position to tackle in a practical way programmes of a nature calculated to stimulate the higher faculties for big decorative schemes. This class of programme is again more particularly of a theoretical nature, and the students should be left the greatest freedom in the choice of style. Special programmes are set with a direct archæological aim, preparing them for restoration work. Here let it be remarked that the " Ecole " stands for scholarly modern interpretation of traditional principles; that it encourages style or character but not the imitation of styles. In this way a national modern style is constantly in process of development.

The majority of students, especially since the war, cannot afford the time and money necessary for a complete education leading up to the Grand Prix de Rome, and most prefer practice to perfection. The intermediate class is therefore the most numerous, for the bulk have to leave when in the 2nd class (or after having done one or two class projets) in order to make a position in life. Programmes for this category must therefore be more practical, more scientific, and more adapted to the commonplace requirements of every day life. The catering for this class is a necessity, but somewhat upsets the principle of the progressive theory of the Ecole training leading up to the " Diploma "; yet it is every day gaining more and more ground. However, the important point still remains that the professor responsible for setting the programmes must know how to word them so as to bring out artistic interpretations of practical problems.

The whole question of Architectural Education lies in the drawing up of Programmes.

The professor is himself expected to have a clear idea of the solution of the subject proposed; he should be sure of the possibility of the imagined scheme. While leaving great liberty to the student, he should suggest the artistic character of the building, and hint at the required accommodation of the problem, avoiding ridiculous dimensions.

In judging the results submitted, care is taken to award according to the aim of the programme. If the projet is a *Rendu* (careful study) it must be effectively rendered. If a *Projet de Construction* it must be scientifically worked out; but if the problem is one of setting down rapidly executed imaginative ideas for a vast composition, the projets submitted will not be judged from a prosy, practical point of view.

We English pride ourselves on being practical, but incline towards laziness or the love of 5 per cent. before fine architecture. The practical fellow has been termed " a man with one eye and a bag of tools." Napoleon said: " It is imagination which rules the human race."

In architecture, as in military tactics, we can profitably inspire from our friends across the Channel. In this connection it is instructive to read Monsieur Godefroy's article in the Bulletin de la Société des Architectes Diplomés par le Gouvernement for May 1, 1921, entitled *Une Heureuse Initiative*." He points out that the Professor of Theory recently set for the advanced students an *Esquisse - Esquisse* (comprehensive rough draft design) for an *Ecole Normale d'Education physique*, and that the Minister for War asked the director of the " Ecole " to inform him of the " projets " placed first. Upon which the subdirector suggested that any officers interested in the competition should visit the exhibition, when a delegation of the jury would explain to them the reasons which brought about the placing in the order of merit. Twenty-five officers, mostly ranking as colonels, turned up. They were literally astounded to see what the students were able to do in a single day of twelve hours without preliminary study of the subject.

General Pénelon said that in the future, when it is a question for a building of a military nature, an appeal should be made for the ideas of the students. M. Godefroy suggests that other ministries should be approached in the same way.

The article gives a practical proposal for increasing our prestige in the public eye.

The uninitiated are amazed at seeing what well-trained students can do (overnight, so to speak), in the matter of composing a huge scheme, provided the programme is previously well drawn up. In actual practice the drafting of the programme is done by the architect himself after much collaboration with the client. When conditions for a public competition are properly drawn there is no need for many " questions." This necessitating much work for the assessor, it is more than ridiculous to suppose that students are familiar with the exact accommodation desirable for every kind of building; hence the immense responsibility of the professor of theory.

The *Esquisse-Esquisse* is particularly French in method, and generally perplexes foreigners. It is decidedly practical, yet essentially theoretical, and in itself must be regarded only as a form of study. If some brilliant but lazy students tend to rest on their oars content with dazzling the eyes of the laymen, that is no criterion for not developing this faculty so much esteemed by all serious students as a necessity.

What better method could be devised for the training of rapidity in composition? Not enough in itself, it is a preliminary acquirement of necessity to the purist, and a very practical accomplishment for the business-like artist. The most useful asset for impressing clients.

Is this skilful brilliancy widespread among our British students? If not, suggestions for developing this particular facility of expression should not be taken amiss. It would certainly do much to dissipate the superstition of public indifference.

The great principle of the Ecole training is the setting and reading of programmes, the most logically organized method in the world. The student learns not to make a station look like an hotel; and the professor learns not to ask for an hotel if he wants a station. Our learned President of the R.I.B.A., Mr. John W. Simpson, Membre Corr. de l'Institut de France, very clearly pointed this out to students last January when considering the question of public competitions. It is of all considerations the most important both for assessors and competitors. A " school " frankly academic provides theoretical grounding for the practitioner.

The mere reading of a series of programmes proposed for students at the Ecole des Beaux-Arts is an education in itself. As an instance, a monument might, in appearance, be either funereal or triumphal, or both, but merely to ask for a monument to the dead is to leave the student in the dark as to how it will be judged; besides, the reading of the programme is of no artistic value. This method of education is an artistic science in itself worthy of our deepest consideration, and for this I would suggest for the benefit of British Architecture—

1. A greater *Centralization* of our teaching bodies.
2. The nomination of a " Professor of Theory."
3. A *Representative Jury* of all the leading professors.

This extension of our efforts would lead to more vigorous and to more national results.

The professor, a practising architect who has made a special study of this particular form of instruction, should know in detail the usual stock-in-trade of commemorative monuments, town halls, theatres, museums, etc., and of town planning; but, for modern purposes, as even he cannot be expected to be familiar with every kind of building from slaughter-houses to libraries and from synagogues to lunatic asylums, it is his concern (more than the student's) to find them out before setting the subject. For this he has a civic right to request information from administrative bodies, private companies, corporations, associations, etc. The British authorities, if courteously approached, are no less obliging than the French. Thus drawn up, the *Programmes* would be valuable documents to architects, and the student's "projets" valuable suggestions to the public. The authorities not being slow at recognizing their own interests, encouragement would follow, and our effort, less isolated, would become better known and more effectively patronized, public indifference would vanish, and the status of the profession would thereby be enhanced.

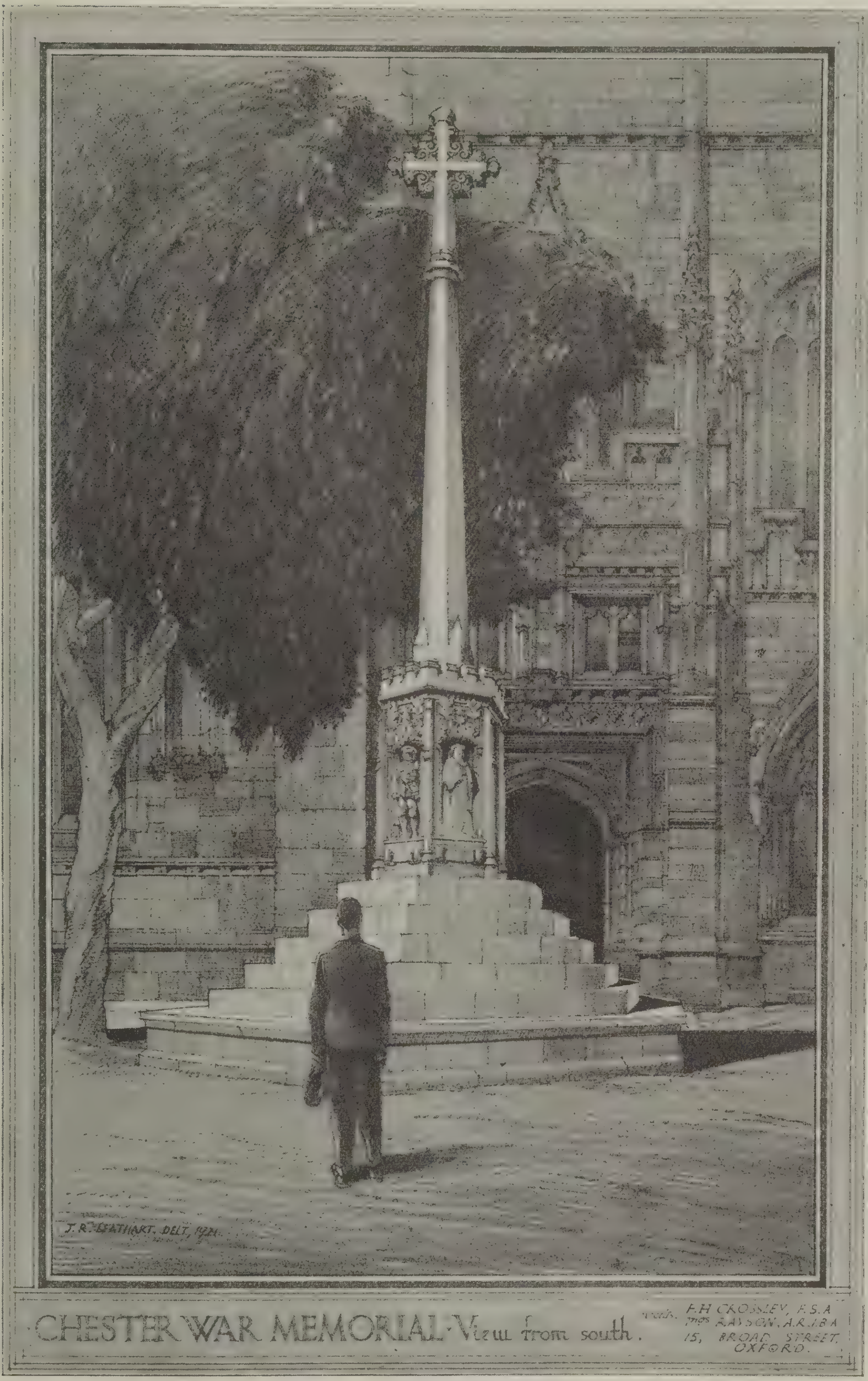
Effective professorship is the only road to public recognition.

South Wales Architects at Swansea

In connection with the exhibition of the R.I.B.A. prize drawings held at Swansea, Mr. Glendinning Moxham, Chairman of the South Wales Institute of Architects (Western Branch), entertained the South Wales Architects to a luncheon at the Baltic Lounge. Amongst the acceptances were: Messrs. H. C. Portsmouth, Ivor Jones, Percy Thomas, Cook Rees, J. Herbert Jones, T. Gibb, E. E. Morgan, C. S. Thomas, H. A. Ellis, O. S. Portsmouth, G. H. Rogers, Edwin Smith, G. L. Crocker, Victor Ward, V. H. John, D. J. Howells, D. Davies, P. J. Williams, J. C. Gower, F. A. Martin, R. G. P. Williams, W. T. Lloyd, — Bayliss, C. K. Brice, L. W. S. Lowther, and Teifon Williams. After the luncheon, speeches were made and a hearty vote of thanks was accorded to Mr. Moxham for his kind hospitality. A visit was then made to the exhibition, where the drawings were viewed with great interest. General appreciation was expressed of the fine work on view.

War Memorials. 14.—Chester War Memorial

F. H. Crossley, F.S.A., and Thomas Rayson, A.R.I.B.A., Architects


J. R. LEATHART. DELT. 1921.
CHESTER WAR MEMORIAL · View from south.
Archts. F. H. CROSSLEY, F.S.A
THOS RAYSON, A.R.I.B.A
15, BROAD STREET, OXFORD.

This design, one of twenty-two submitted, was placed first in the recent competition for Chester City War Memorial. The cross is to be erected on the Cathedral Green in St. Werburgh's Street, Chester.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

ir Frederick Gill Rice

ir Frederick Gill Rice (who has just eived the honour of knighthood) is senior partner in the firm of Rice Son, building contractors, of Stock- l. He was born in 1866, and en- ed his father's business in 1882. 1902 he was elected to the Coun- of the London Master Builders' sociation, and in 1908 was elected esident, and served, in addition, on the me Office Committee of Inquiry into incidence of White Lead Poisoning for ir years. In 1914 he was elected Presi- nt of the Institute of Builders, and on outbreak of war attended the ratorium Committee regarding pay- nt of wages and mortgages. In 1917 was nominated by the Federated ambers of Commerce, and elected a mber of the Pre-war Contractors' Com- ttee, and acted in an advisory capacity connexion with the Powers of Courts nergency Act, etc. He has served on veral committees from time to time.

He is a member of the Council of the ndon Chamber of Commerce, and, in dition, has represented Great Britain d Ireland at the International Confer- ce of Building Trades at the Hague; as an original member of the Committee Labour Exchanges, a member of the ational Board of Conciliation of Building Trades, and a member of the Industrial Council for the Building Trades, out of which arose the Whitley Report.

His firm have carried out many important contracts, and at the outbreak of war were engaged in building Victory House, Cockspur Street, afterwards occupied by Lord Fisher and the Inventions Board. Other works include the new main electrical generating station and four sub-stations for the Hackney Borough Council, new offices in Mark Lane, the Studebaker Building in Great Portland Street, and several other important contracts, all of which were finished early in the war.

During the war Sir Frederick's brother (and partner) and his two sons were all on active service, and when ordinary building work was suspended, the firm were engaged on contracts for the Admiralty, War Office, Air Ministry, and Office of Works in Lancashire, Yorkshire, Hampshire, Kent, as well as in the London districts. At the end of the war Messrs. Rice and Son proceeded with the completion of the new general offices of the Metropolitan Water Board, Rosebery Avenue, the operations of which were suspended during the war. At present they are engaged on housing schemes at Islington and Margate, as well as works in the City and West End of London, and at Sandwich, Sittingbourne, Canterbury, Swaythling, etc.

In addition to his many other activities, Sir Frederick has held, since 1915, the rank of Lt.-Col. in the 1st Cadet Battalion of the Royal Fusiliers (City of London Regiment).

Photo: Vandyk

SIR FREDERICK GILL RICE.

Galleries in Science Lecture Theatres

The illustration on pages 742-3 shows the timber frame construction of the staging upon which seating suitable for Physical and Chemical Lecture Theatres is arranged. In the two examples given one shows the relative disposition of the staging and the lecture table, and the arrangement of dual desks at four different levels, with gangways between; and the other, on a smaller scale, shows the construction of staging at two different levels. In all lecture theatres where top lighting is not employed the windows should be on the left-hand side of the students when facing the lecturer, and their heads should be as near to the ceiling level as possible, as in the case of ordinary classrooms.

In the first example (Section CD) half principals are employed, which are composed of 6 by 4 in. posts and 6 by 4 in. tie beams, with 8 by 4 in. principal rafters to act as supports for the horizontal bearers for the floor joists and boarding. The steps in the gangways are built up as shown in Section AB.

In the second example the truss is of different formation, 4 by 4 in. cross-bracing being built upon a 6 by 4 in. plate (Section KL), the steps being formed as shown in Section EF.

(Further drawings in this valuable series will appear at intervals of three weeks).

Berks, Bucks, and Oxon A.A.

A special meeting of the newly formed Berks, Bucks, and Oxon Association has been held at Reading under the Chairmanship of Mr. C. S. Smith, J.P., F.R.I.B.A., Chairman of the Reading Society of Architects. Twenty-seven architects from Berks, Bucks, and Oxon were present, including Messrs. W. R. Howell, F.R.I.B.A., T. T. Cumming, A.R.I.B.A., H. W. Rising, F.R.I.B.A., C. B. Wilcocks, F.R.I.B.A., H. Hutt, A.R.I.B.A., W. J. Freeman, A.R.I.B.A., C. S. Kimpton, A.R.I.B.A. (Berks), T. Rayson, A.R.I.B.A. (Oxon), R. A. Rix, A.R.I.B.A., and A. Cooper (Bucks).

The bylaws of the Association were received and confirmed, and the following officers elected: President, Mr. E. P. Warren, F.S.A., F.R.I.B.A. (Berks); Vice-Presidents, Messrs. C. S. Smith, J.P., F.R.I.B.A. (Berks), and H. Rogers, M.A. (Oxon); Hon. Treasurer, Mr. T. T. Cumming, A.R.I.B.A. (Berks); Hon. Auditor, Mr. R. A. Rix, A.R.I.B.A. (Bucks); Hon. Secretary, Mr. H. Hutt, A.R.I.B.A. (Berks). The various branches of the Association nominated their representatives for the Council.

The Association resolved that formal application should be made for affiliation with the R.I.B.A. Competitions were arranged, open to members and students of the Association, for an Association Badge and Measured Drawings.

The Rome Prize Designs

By JAMES BURFORD, A.R.I.B.A.

Director of the University College Atelier

THAT criticism is easy is a sentiment that has become trite through reiteration by folk little given to reflection and of small experience in the business. Nor would they be so willing to lose their time in fruitless cavilling with the commentators if they did but consider that to criticize a design effectually requires more wit and learning, more judgment, more pains and skill, than went to the making of it; and if I should put myself about to tell the reader by what accident I became master of these necessary qualifications it would pass for mere cant and jargon of the trade, so I will spare myself and him the trouble.

At the Royal Institute of British Architects, hanging on the walls of that body's select retreat, is so much of excellence and effort, and that, too, the produce of a bare three weeks of work, that the usual hardships that beset critics become unconscionably increased.

The subject for the Final Round of the Rome Prize Competition is a Town Church, and beyond the general stipulation that it came within the bounds of the allotted site, and that the nave should be free and open, no restriction is placed on the fancies of the competitors.

It is to be regretted, then, that imagination plays so small a part. Now, the mind of the architect should teem with pleasant fancies. On every occasion he should trot them out and choose the one most suited to his purpose. It would seem, in this accomplished and polite age, that the Englishman considers imagination a somewhat improper attribute, as not suited to the dignity of a true-born Briton; that, in short, there is something about imagination almost indecent.

As a humorous professor once remarked, "No generalization is ever entirely true, not even this one," and I hereby except from this wholesale condemnation Mr. S. Rowland Pierce, of the Architectural Association's Atelier.

MR. S. ROWLAND PIERCE
(Winner of the Rome Scholarship)

Mr. Pierce (No. VI) must not only be congratulated formally on winning the Prize, but, what he will value more, he must be felicitated especially on the design itself.

The plan is nobly conceived, and it is a direct transcription of the sketch design. Rightly, in a church of this nature, the exterior design is subordinated to the interior effect, and the few minor faults that exist in the elevations are amply atoned for by the beauty of the sections. The scheme is cast in an imaginative mould, and the details are created with a charming fancy.

Whatever man desires a thorough comprehension of an architect's design, cannot take a better method than to surround himself with the same circumstance and dictates which controlled its creation, and then, piling up the building with airy, sympathetic fancy, to enter in straightway. I know that Mr. Pierce's church would serve its purpose because, when I entered, I felt very reverent.

Mr. Armstrong, of the Architectural Association's Schools (No. V), whom we congratulate on winning the Jarvis Scholarship, shows a design whose exterior effect is finer than the interior. The massing of the various features in elevation is good, but the plan suffers from the premature closing of vistas which, had they been kept open, would have added a desirable sense of religious mystery to the interior. The slight changes made from the sketch design are not an improvement, and parts of the plan appear unnecessarily cramped. An unsuccessful feature in an otherwise dignified elevation is the curious circular window, distantly reminiscent of the French Prix de Rome designs of about fifty years ago.

No. I presents a plan which is a direct and simple statement. The inspiration for the spire (and for that of No. IV) would seem to have been gathered from Langham Place on the way to the examination room. The elevations are dignified in the manner favoured by the architects of the early nineteenth century. The drawings are delicately handled and sympathetically rendered.

No. II shows a quiet breadth of treatment in the sections, but the cupola has lost scale.

No. III suffers from an accretion of domestic planning around the chancel.

No. IV, in a good set of drawings, displays a design of a strong eighteenth-century flavour. The planning around the entrance needs some expansion, but the scheme is saved from a threatened dullness by the original form of its cupola, which bursts unexpectedly and impertinently through the roof.

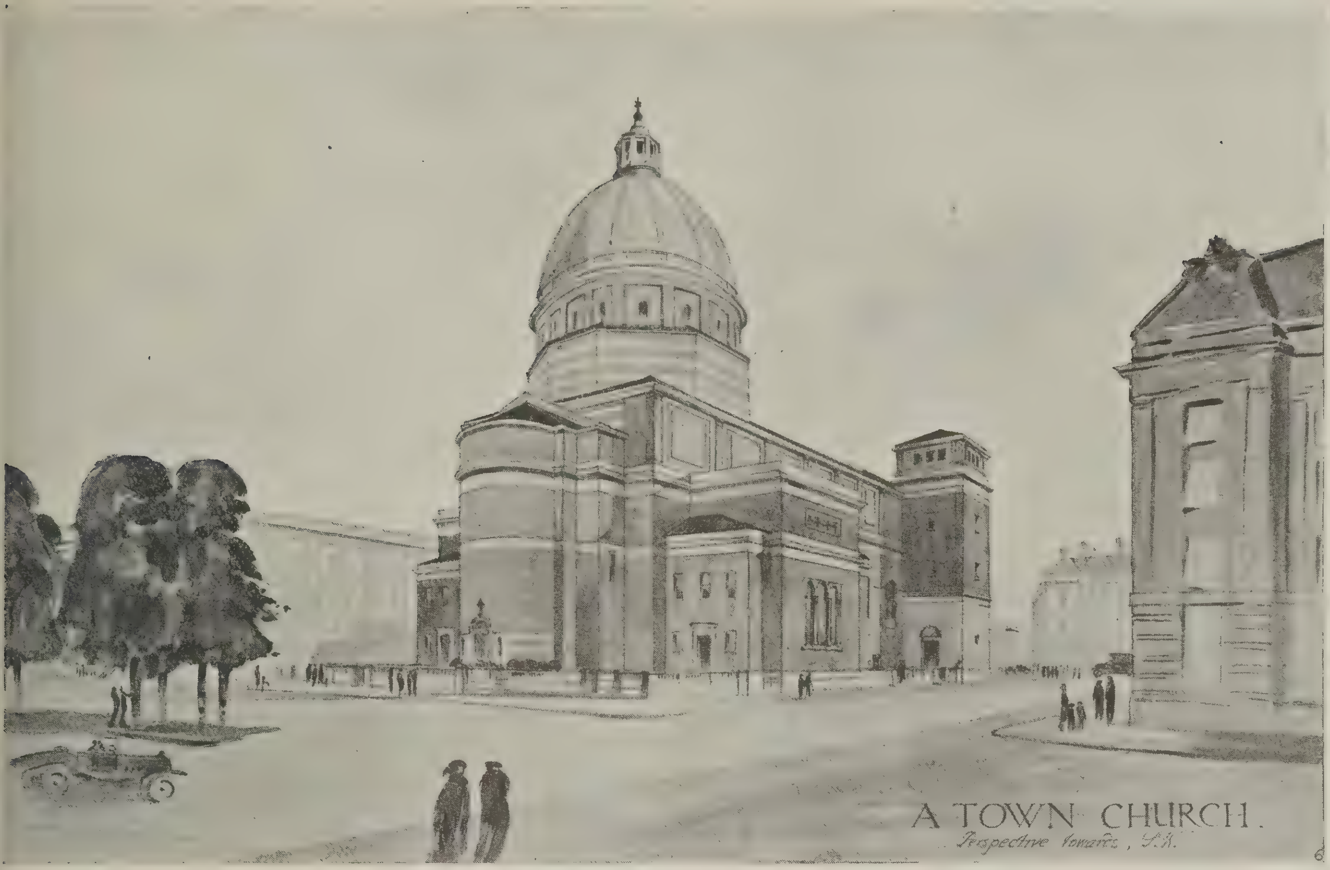
The ecclesiastical sentiment is lacking in design No. VII. The method of construction presents us with a novelty. The nave walls, of considerable height and apparently no little weight, are supported throughout their entire length by a miniature colonnade.

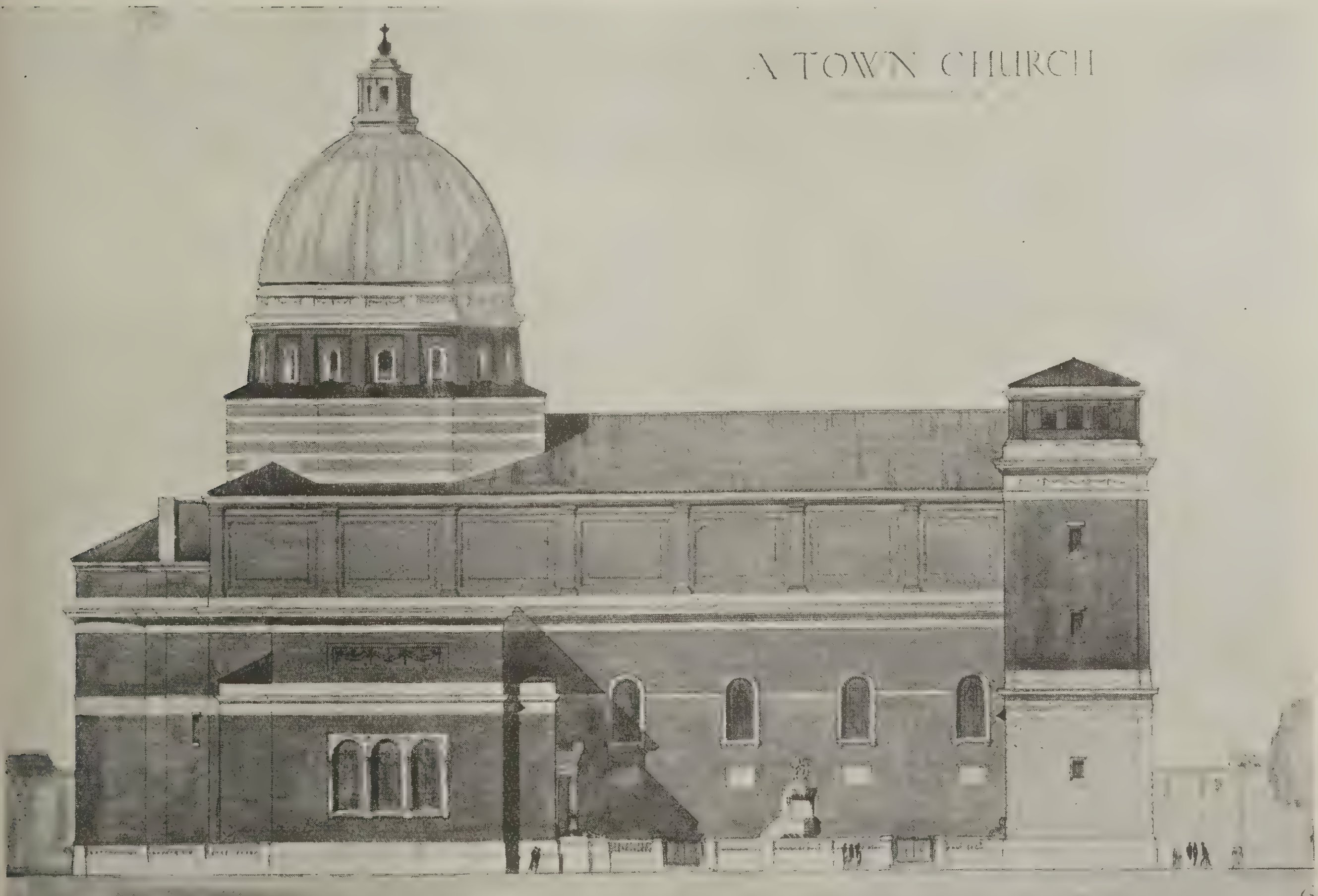
That both the winners of the prizes should be members of the same school is a matter of little import. Nor should I have mentioned so patent a matter had not the conversation of certain factious persons led me to believe that a contrary opinion might be entertained. Those of us who presume to instruct the student in the gentle art of architecture are not concerned with the petty rivalry of schools. To instil an appreciation of great architecture is our great and common aim; and architecture, happily, is the common heritage of men. Therefore, let not this be made an occasion for unearthing the ignoble bone of contention, but rather let it be a seasonable opportunity for burying the hatchet.

Mr. S. Rowland Pierce is an original member of the Architectural Association Atelier, and holds an appointment on the staff of the Architectural Association. He was born at St. Leonards in 1896, and received his first technical training at the Hastings School of Science and Art. The Rome Scholarship in Architecture of the value of £250 a year, tenable for three years at the British School at Rome, is open to British Students under thirty years of age.

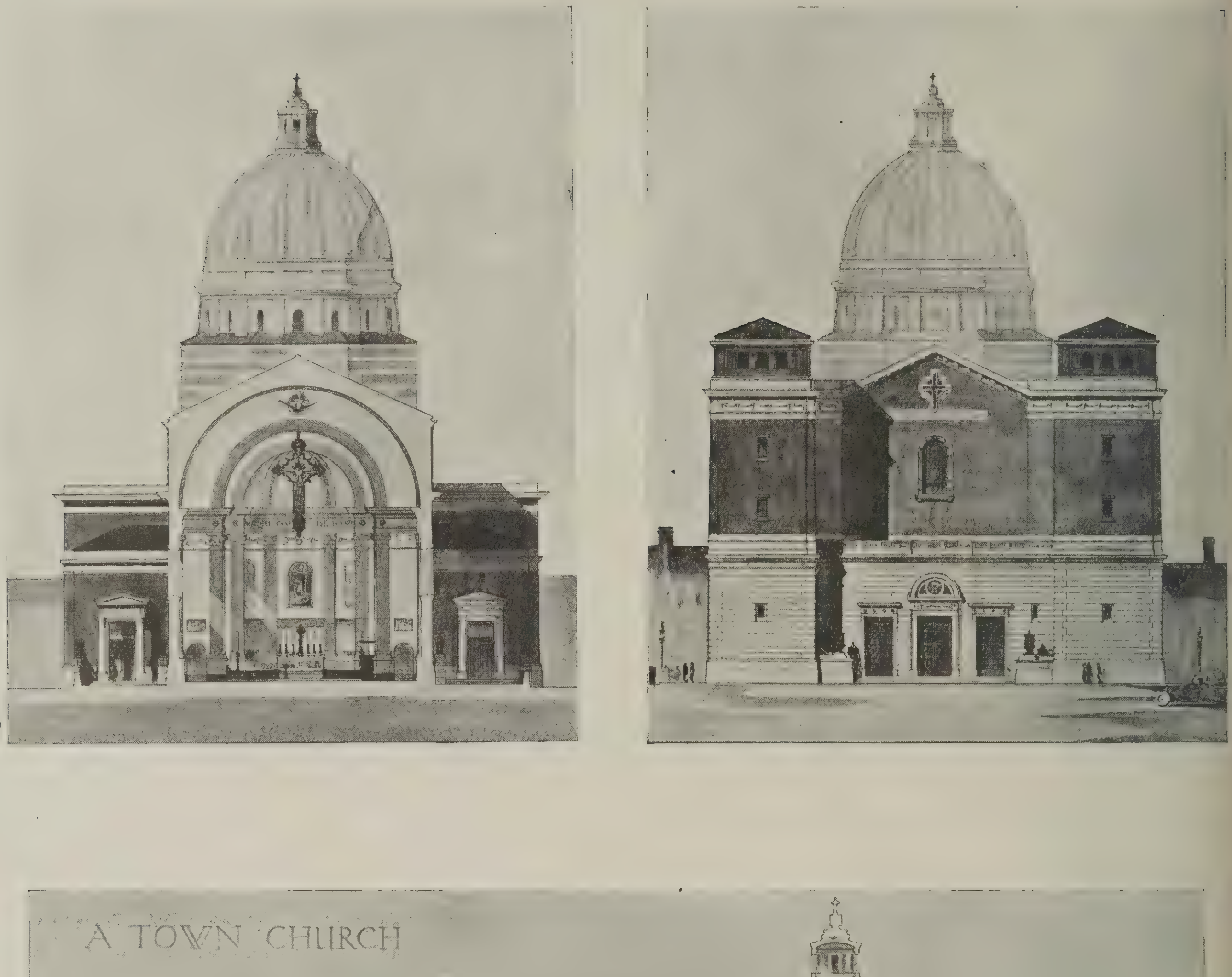
Mr. Edward William Armstrong is twenty-five years of age, and was born at Fielding, New Zealand. After service in France with the New Zealand Expeditionary Force, he entered the Architectural Association with a New Zealand Government Scholarship, and subsequently qualified for the associateship of the Royal Institute of British Architects. The Jarvis Studentship is awarded to the student or Associate of the R.I.B.A. who passes next in order of merit to the winner of the Rome Scholarship.

MR. E. W. ARMSTRONG
(Winner of the Jarvis Studentship)


A TOWN CHURCH.
Perspective towards, S.E.



ROME SCHOLARSHIP IN ARCHITECTURE, 1921: FINAL COMPETITION. SELECTED DESIGN.
BY S. ROWLAND PIERCE.



ROME SCHOLARSHIP IN ARCHITECTURE, 1921: FINAL COMPETITION. SELECTED DESIGN.

BY S. ROWLAND PIERCE.

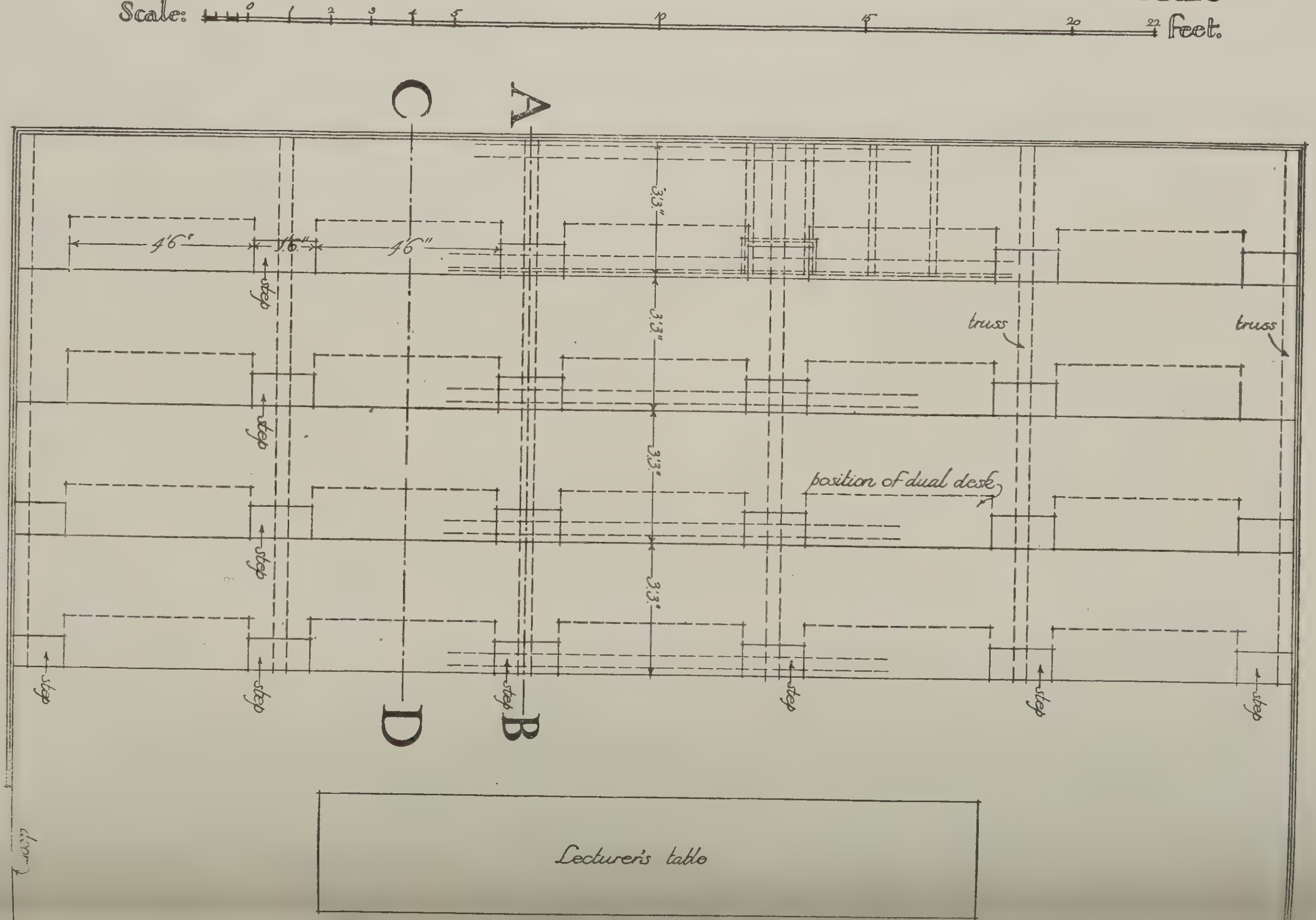
THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

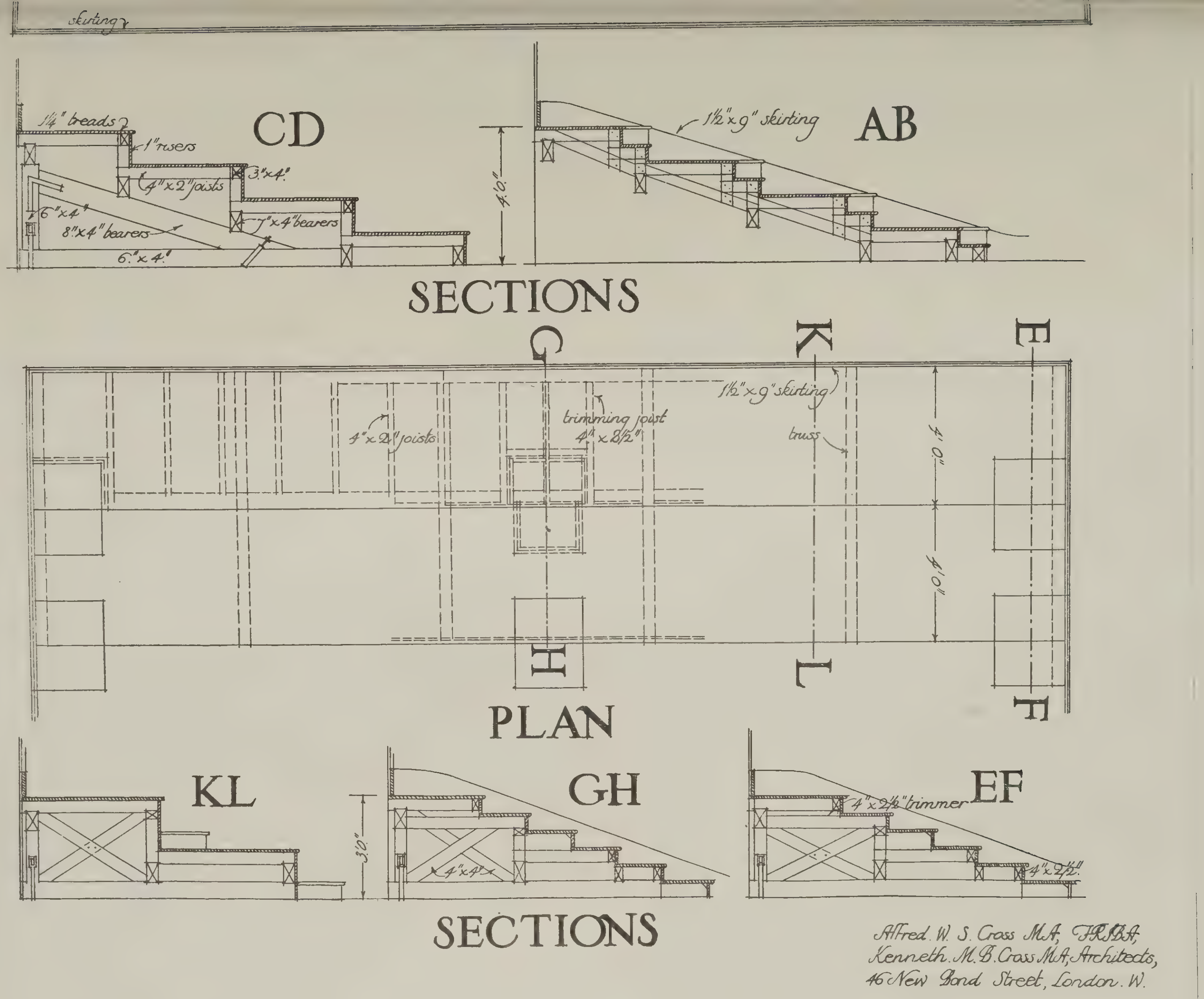
Practical Notes for Architectural Draughtsmen: (Series II) Technical Schools and Science Buildings. 3—Galleries

A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, M.A., Architects

GALLERIES

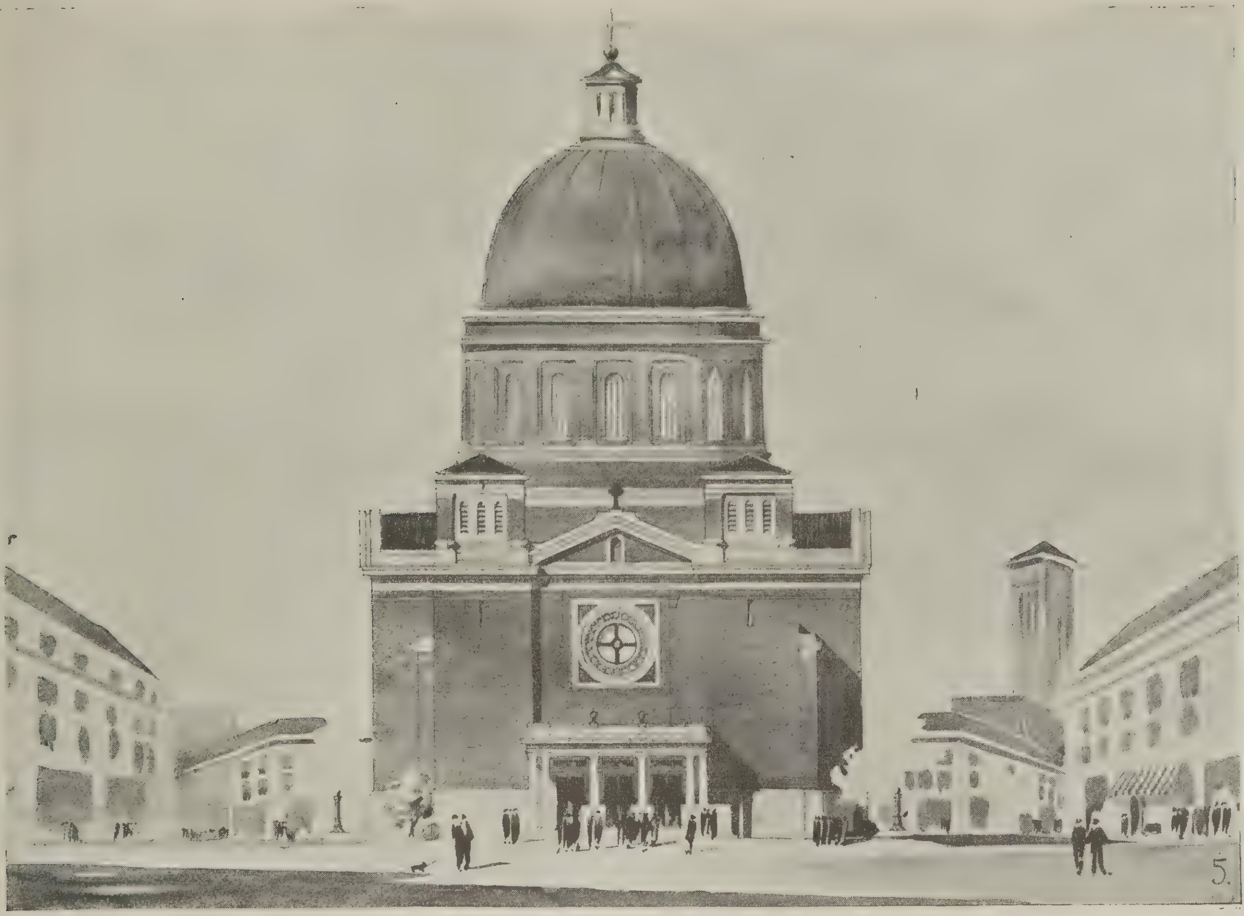
IN PHYSICAL AND CHEMICAL LECTVRE THEATRES

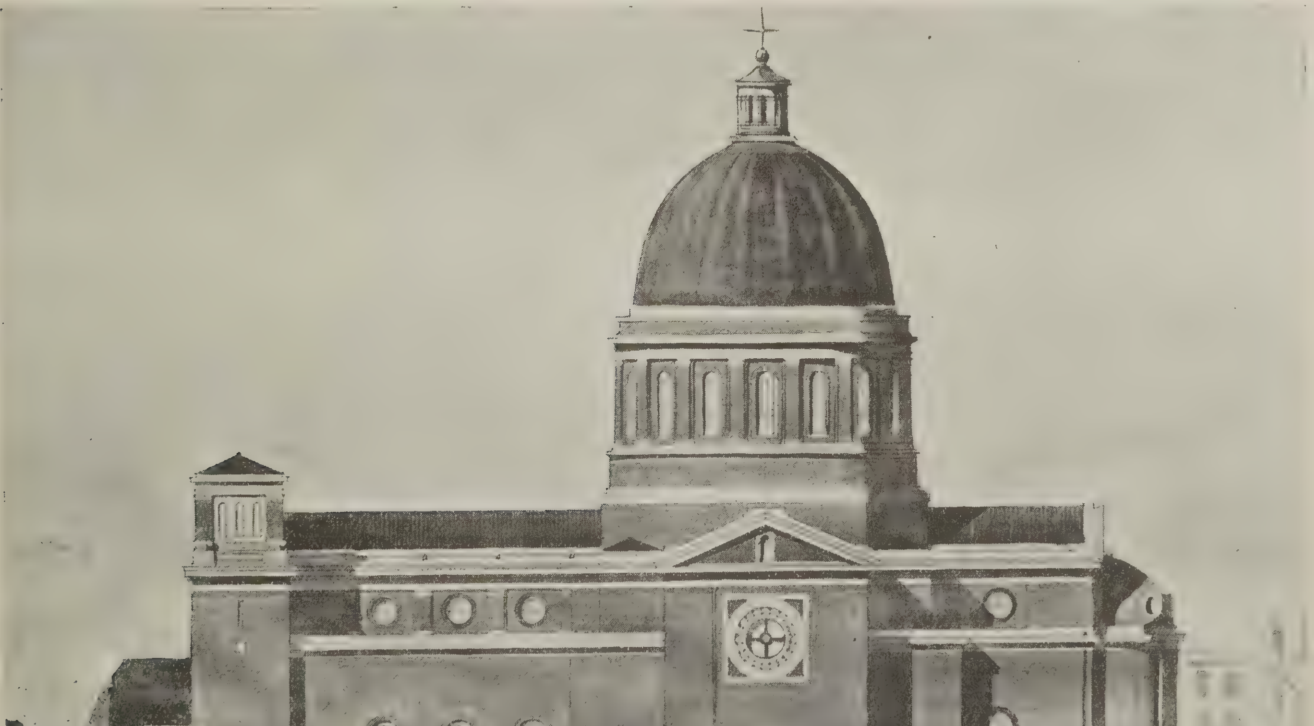




This illustration, the third of the new series of plates showing special details of technical schools and science buildings, shows the timber frame construction of staging suitable for the seating of a physical and chemical lecture theatre. A note on the construction is given on page 737.

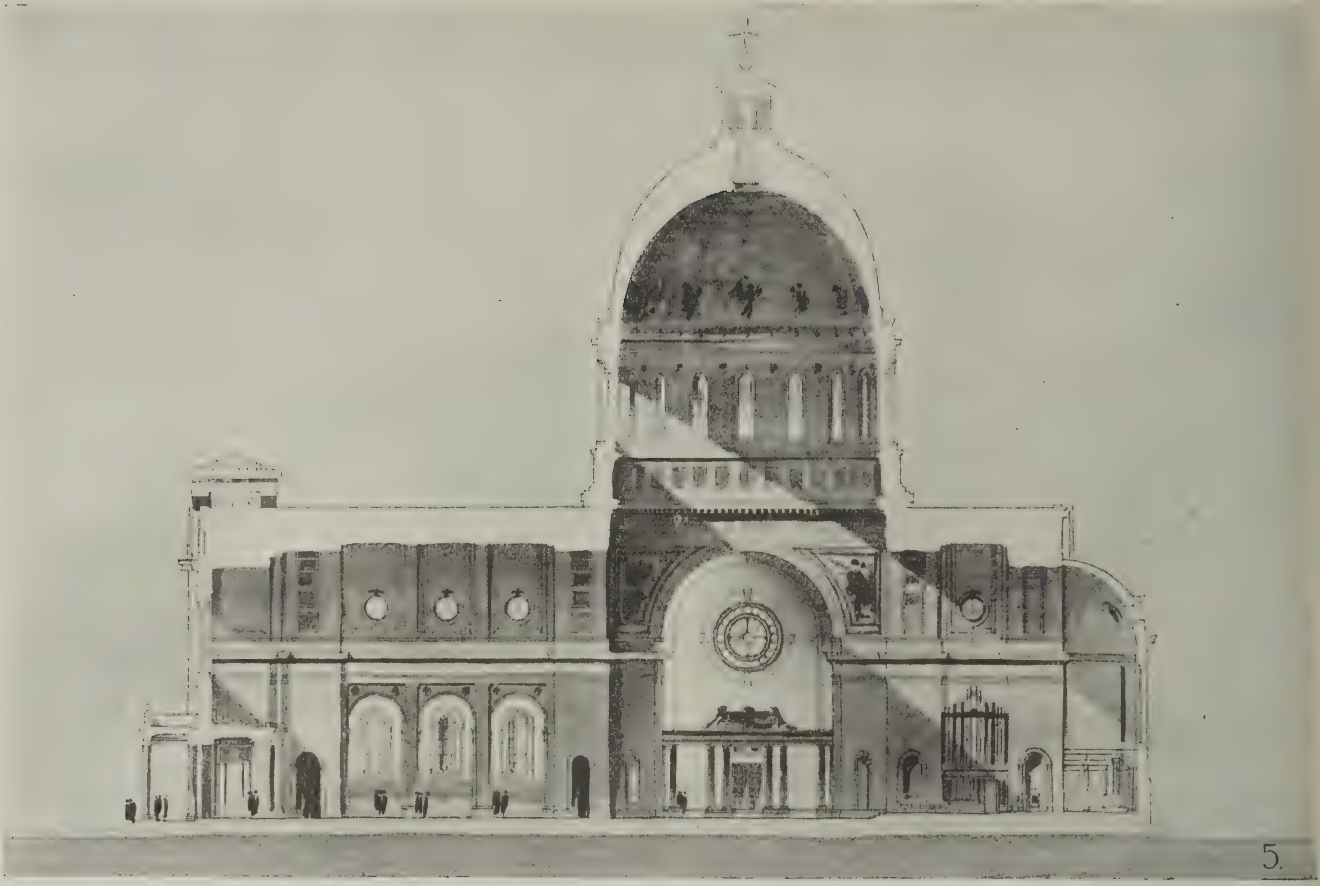
LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

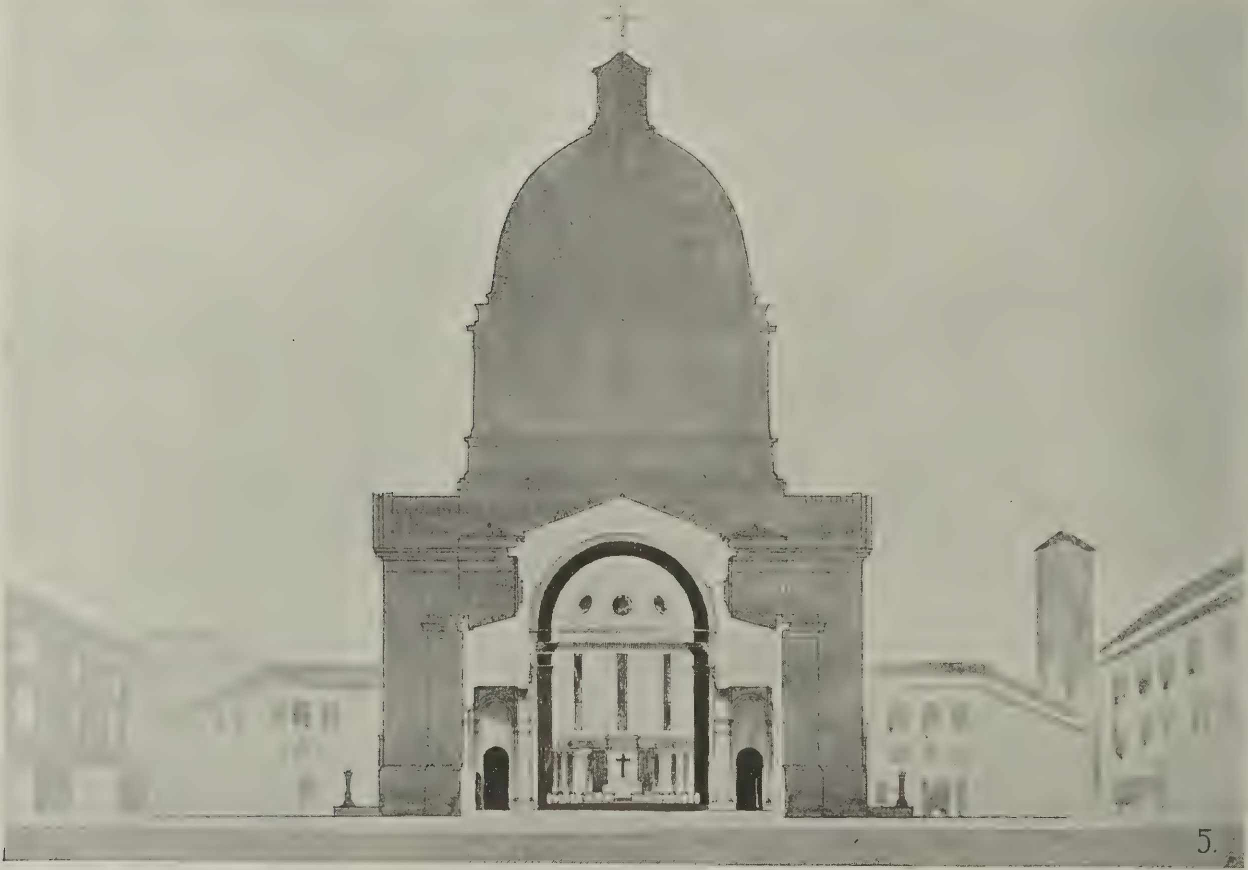




ROME SCHOLARSHIP IN ARCHITECTURE, 1921: FINAL COMPETITION. JARVIS STUDENTSHIP DESIGN.

BY E. W. ARMSTRONG





ROME SCHOLARSHIP IN ARCHITECTURE, 1921: FINAL COMPETITION. JARVIS STUDENTSHIP DESIGN.

BY E W ARMSTRONG

The Red Lodge, Bristol

ON Friday last, on the occasion of the opening of the Bristol School of Architecture, by the Prince of Wales, the President and Council of the Bristol Society of Architects entertained to dinner in the Oak Room of the Red Lodge the President of the R.I.B.A. and a number of specially invited guests. Some account of this function will be given in our next issue. In the meantime it is interesting to recall something of the history of the Red Lodge.

Let us quote first of all from "The Bristol Times" of 1856.

"On the south side of Park Row is a great old house which has immemorially been known as the Red Lodge. Its ong windows with their large, heavy sashes, and its generally antique character mpress you with the conviction that the age, at least of some portions of the structure, is counted by centuries.

"It is called the Red Lodge, and seemingly for this obvious reason: that its exterior has always been painted that colour. Within the memory of some living there was another old house on the same side of Park Row, lower down and nearer to St. Michael's Steps, which was called the White Lodge, its colour being always white. . . .

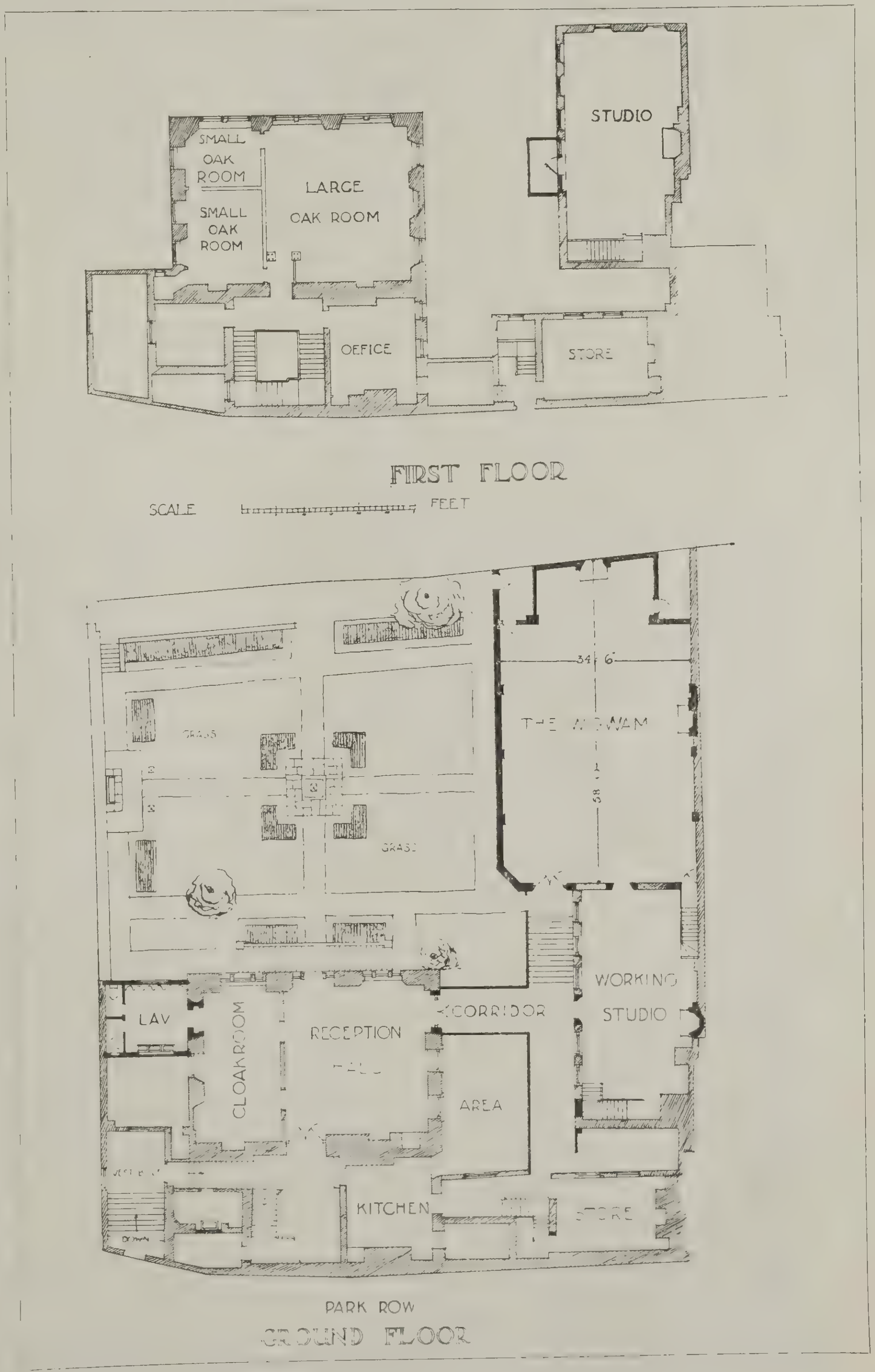
"The tradition is that these two Lodges stood near two entrances, upper and lower, which led through ornamental grounds to the Great House built by Sir John Young, a Bristol merchant, about the 20th year of Queen Elizabeth's reign.

"Up to within comparatively a few years of Sir John taking possession of these grounds and erecting a stately mansion thereon, they were the site of a monastery—shady walks and hanging gardens of a brotherhood of White Friars, whose house was dissolved by Henry VIII. In the vicissitudes of succeeding centuries the Lodge and the Great House have got separated, though all were enclosed within the same demesne walls when Queen Elizabeth was a visitor to the latter."

In this extract we have, in a brief compass, much that is essential to a right understanding of the history of the Red Lodge. There is internal evidence that it was built on an outlying section of the Carmelite Friary, which Speed says was erected by Edward I in 1267. The Friary was beautiful in character and large in extent, for it covered an area stretching from St. Augustine's Bank to the foot of St. Michael's Hill. Upon its dissolution the property passed into the possession of the Corporation, and John Young's name is first mentioned in connection with it in February 1568. He at once proceeded to construct an imposing mansion on the site he then purchased, and called it the Great House.

It was worthy of its name, and afforded fitting accommodation for Queen Elizabeth and her numerous suite during her week's sojourn in the city six years later. Early in the eighteenth century the Great House was sold to Edward Colston, who therein established his school, where it was maintained till 1861, when more suitable premises were secured at Stapleton. Within a few years the buildings were demolished, to make way for Colston Hall, which was opened in 1867.

For years dealers in all parts of the country had been patiently awaiting the day when the Red Lodge would come into the market in order that they might secure its rich panelling, its ceilings, and fireplaces for the benefit of American clients. Happily they were forestalled. News that the building was to be vacated (by this time it had become a reformatory school for girls) was conveyed to Mr. John E. Pritchard, F.S.A., then President of the Bristol and Gloucestershire Archæological Society, a gentle man always on the alert to preserve Bristol antiquities for Bristolians. He passed the information on to Alderman James Fuller Eberle, Chairman of the Museum and Art Gallery Committee, in the hope that arrangements might be made for the Corporation to purchase the mansion. The moment was inopportune to ask that public money should be devoted to this purpose, but Mr. Eberle, confident that friends would rally round



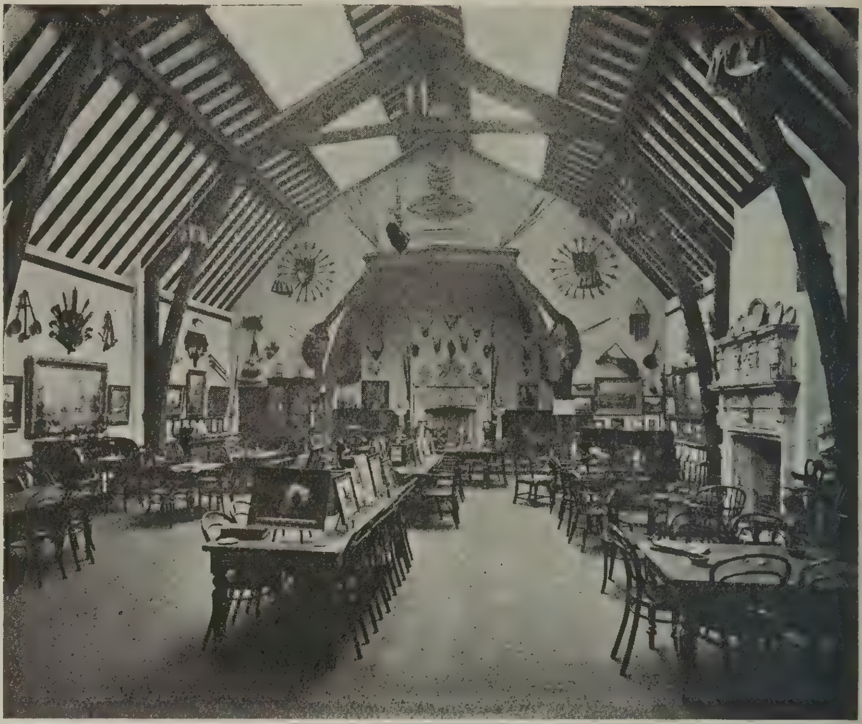
PLANS OF THE RED LODGE, BRISTOL, AS RESTORED BY C. F. W. DENING, F.R.I.B.A., R.W.A.

him in the enterprise, bought the property (from Dr. Estlin Carpenter, of Oxford). He had a double purpose in view—to make a home for the Bristol Savages and to afford his fellow citizens the opportunity of enjoying the glories of this historic building. In order to accomplish this he gave the Savages a twenty-eight years' lease, and made it a condition that the public should be admitted to inspect the ancient parts of the house on at at least one day a month.

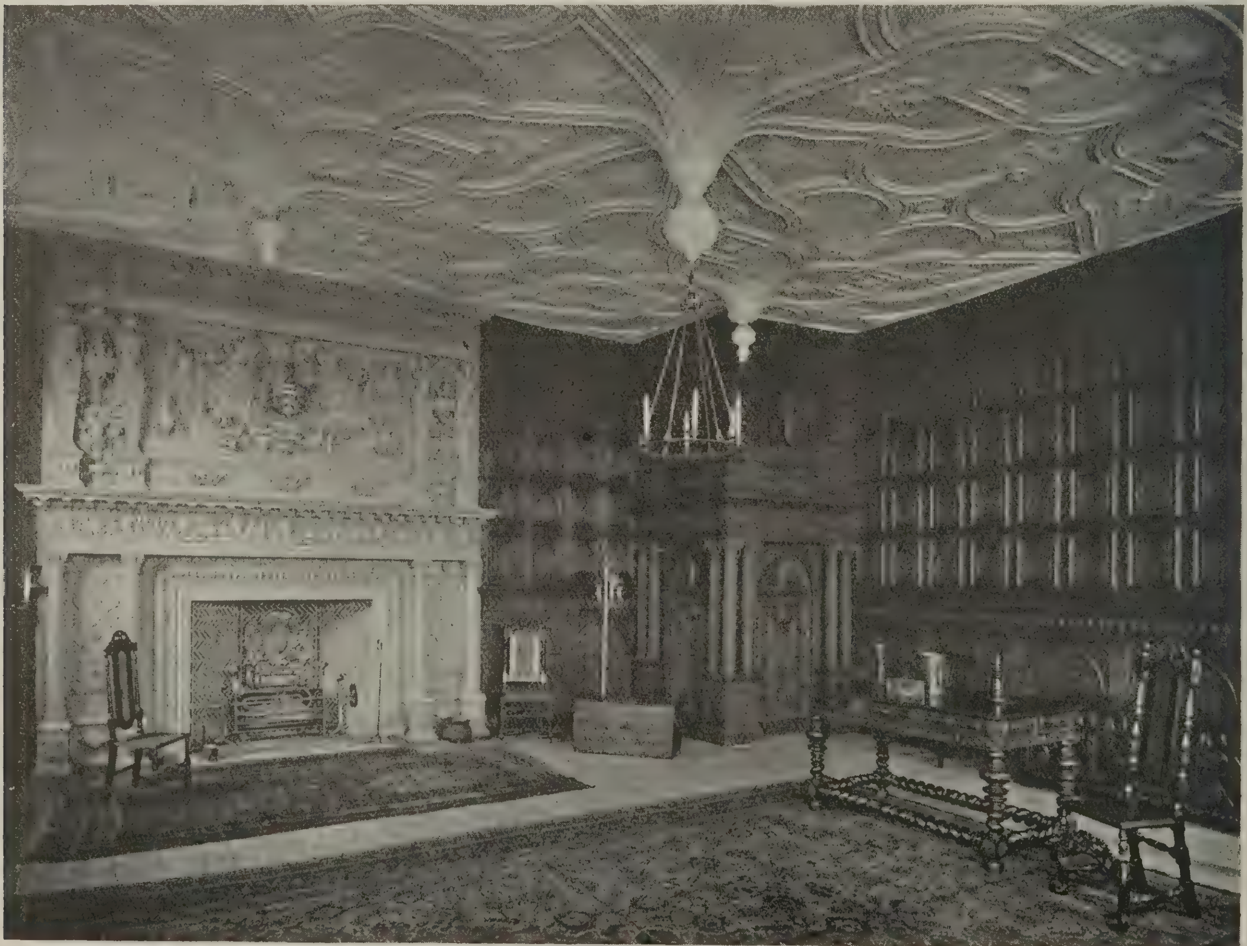
Under the direction of Mr. C. F. W. Dening, F.R.I.B.A., R.W.A., who acted in an honorary capacity, a complete scheme of restoration was carried out, The work proved far more extensive than was originally contemplated, and it was not finished till April of 1920. In the course of the operations the remains of two old chimney-pieces were discovered—one in what is now the Crimea and Indian Mutiny Veterans' Room, and the other in the lesser oak room on the first floor—and also two ancient iron fire backs. With the co-operation of the Museum and Art Gallery Committee, two seventeenth-century stone fireplaces have been set up in the Wigwam—a fine room erected in the garden for the use of the Savages and at their cost. The fireplace in the south wall came from the Goat in Armour Tavern, which was pulled down to make way for the Co-operative Wholesale Society's building on the Quay, and the other, in the west wall, came from Church Lane, St. Michael's. Three oak doors of the same period and the four corbels to support the Minstrel Gallery are also introduced. A third stone chimneypiece from Jacob Street, Broad Plain, is now in the Lower Studio. In this way the house has been appropriately enriched.

Alderman Eberle has also given to the Red Lodge a valuable collection of furniture, pictures, local books, and Bristoliana of a remarkably varied character. These gifts have been displayed in a way which has greatly enhanced the appearance and interest of the rooms.

(*Continued on p.* 751.)

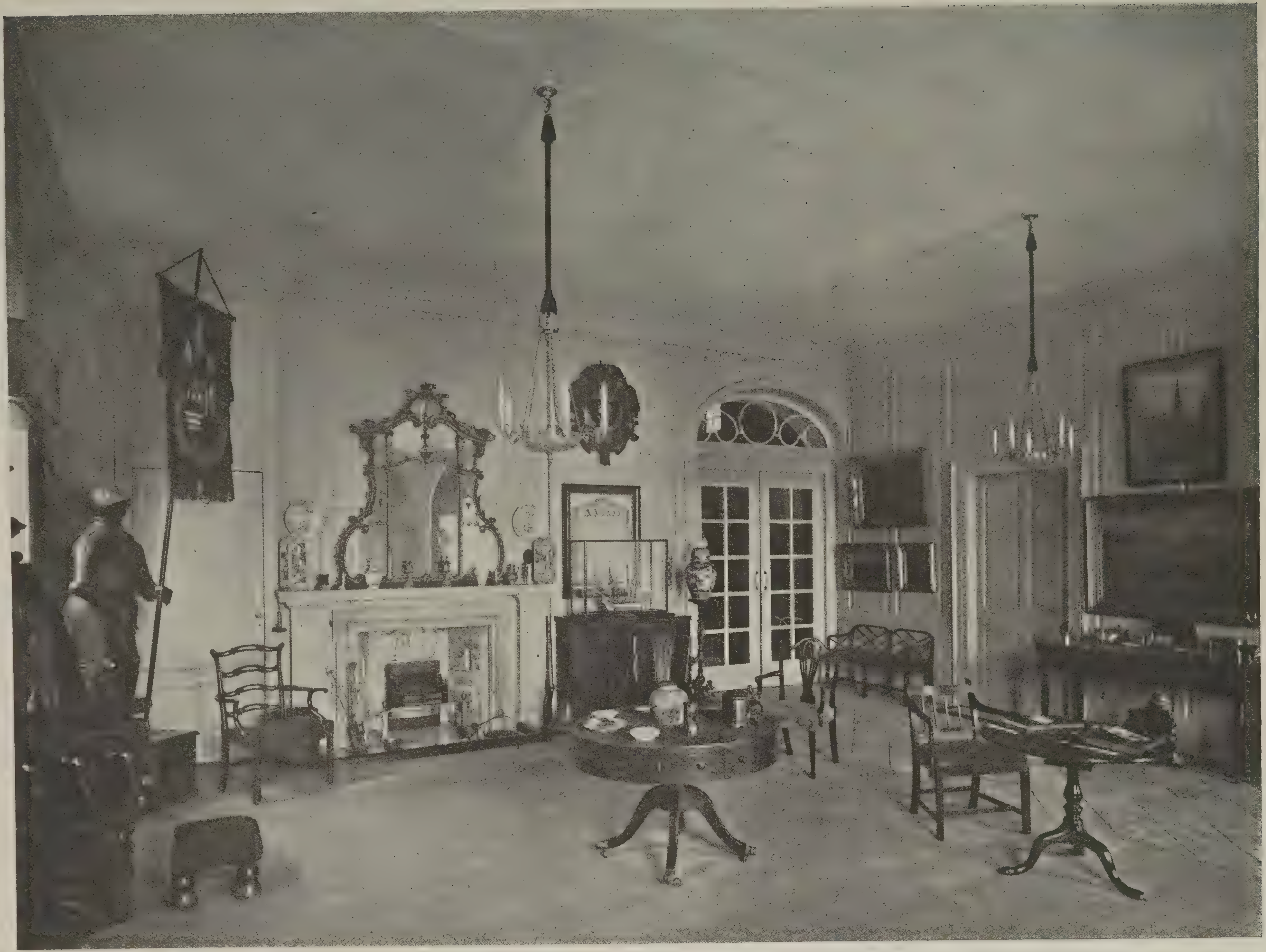


BRISTOL SAVAGES' WIGWAM IN THE RED LODGE, BRISTOL



THE OAK ROOM IN THE RED LODGE, BRISTOL, AS RESTORED BY C F W. DENING, F.R.I.B.A., R.W.A.

Reconstructed by C. F. W. Dening, F.R.I.B.A., R.W.A.



The peculiar history of the Red Lodge, Bristol, is related in the article which begins on page 747. The house was fortunately preserved from the hands of the housebreaker, and, under the direction of Mr. C. F. W. Dening, it has now been carefully restored for the benefit of the Bristol Savage Club.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

In the Reception Room may be seen
nnah More's piano (spinet-shaped);
fine ladder-back Chippendale chair
m the Montague Hotel, where it
s used by the gentlemen who presided
er the many banquets given there;
gg's well-known oil painting of the
nous Bush Tavern, and portraits of
John Kerle and Lady Haberfield.
splayed on the fine staircase are groups
Cromwellian arms and armour, also
rtraits of Harry Burgum, Robert
amans, and Sir Robert Poyntz.

Conspicuous among the limited con-
nts of the great oak room are an oak
air from Bristol Castle; a sixteenth-
ntury table from the convent near
sbon, made from Brazilian hard wood;
"Armada chest" with pierced and
graved lock plate, and two Stuart
airs. In the lesser oak room is to be
en one of the most important pieces
furniture in the mansion—a fifteenth
ntury Spanish cabinet with original
on work, and the interior beautifully
rved. A number of interesting selec-
ons of Miss Mary Carpenter are displayed
the little Powder Room. Mr. Eberle's
nerous gifts are sure to attract others,
nd thus the house will come to be re-
rded as the chief show-place of its kind
the city. Among the few friends who
ssisted Mr. Eberle in carrying through his scheme the name of one—Mr. George A. Wills—must be mentioned. By his munificence and friendly interest the sum of money required was promptly raised. As it stands to-day, the Red Lodge is another example of Mr. Wills's readiness to advance the importance of Bristol and the welfare of its citizens.

(The foregoing particulars are culled from an official publication of the Bristol Museum and Art Gallery.)

The Late Sir Rowand Anderson

Sir R. Rowand Anderson, the distinguished Edinburgh architect, whose death at the age of eighty-seven was announced in our last issue, had been in precarious health for a considerable time.

The son of Mr. James Anderson, an Edinburgh solicitor, Sir Rowand Anderson was educated at George Watson's old Hospital School, and studied for a time at the Trustees' Academy, Royal Institution, under the late Mr. Christie, a contemporary of Dick Lauder. Afterwards he entered the office of Mr. John Lessels, and subsequently made a tour on the Continent, visiting France, Italy, and Holland.

For a time he worked in the office of Cuypers, Amsterdam, then in great repute, and later in the London office of Sir Gilbert Scott. When he returned to Edinburgh, he was for a time in the architectural branch of the office of the Royal Engineers; then he was a partner with David Bryce. Shortly afterwards he settled down, in the sixties, to business on his own account.

From the outset Sir Rowand Anderson was kept busily employed in the designing of churches, especially Episcopal churches. He came into the public eye by his success in a competition for the building of the first new Board schools in Edinburgh just after the passing of the 1872 Act, and from his designs the Fountainbridge, Stockbridge, and Causewayside Schools were built. It was in connection with the completion of the new Medical School of the Edinburgh University, his designs for which were accepted in open competition, that at the memorable celebration of the Tercentenary of the University in 1884 he received the honorary degree of LL.D. He also designed the M'Ewan Hall, and completed Adam's design of the old University by crowning it with a dome. His success in the University Medical School competition placed him at a bound in a foremost place in his profession, a position he continued to occupy to the end of his career.

Sir Rowand Anderson also designed the Scottish National Portrait Gallery and Museum of Antiquities, Queen Street, and in the domain of domestic architecture the palace reared by the late Marquis of Bute at Mount-Stuart.

Sir Rowand was frequently consulted regarding schemes for the restoration of ancient buildings; and he carried out the restoration of Dunblane Cathedral, the chapel of King's College, Aberdeen, Borthwick Parish Church, and Culross Abbey. He was employed by the late Marquis of Lothian to devise measures for the preservation of Jedburgh Abbey, and these were renewed previous to this ancient religious house being handed over to the Ancient Monuments Commission. Similar work was undertaken under his direction at Sweetheart Abbey. He was also associated with the construction and restoration of many mansion-houses in different parts of the country.

As a leading Scottish architect, he had the honour of being chosen to represent Scotland in sending competitive designs for the Imperial Institute; also for the National Memorial to Queen Victoria at Buckingham Palace. Though these were not accepted, it was generally recognized that his designs were of a handsome and scholarly nature. Sir Rowand Anderson was the designer also of several historic memorials, chief among which may be cited the classic monument to the Marquis of Montrose in one of the chapels of St. Giles's Cathedral.

He was intimately associated with the founding of the College of Applied Art, which had its headquarters in the Royal Institution, Mound, and to his initiative was due the formation of the National Art Survey of Scotland, and in the formation of the Edinburgh College of Art Sir Rowand Anderson also took much interest.

He was elected an Associate of the Royal Scottish Academy in 1876, but he resigned in 1883 on a question as to the architectural status of members of the

THE LATE SIR R ROWAND ANDERSON

Academy. During the Presidency of Sir George Reid, Sir Rowand Anderson in 1896 was elected an honorary member of the Academy, and the old feud was in that way peacefully ended. In 1902 he received the honour of knighthood, and in 1916 the Royal Gold Medal.

As a result of his travels in Italy, he published a book on "The Architecture of the Middle Ages." He was also the author, in 1878, of a folio of "Examples of the Municipal, Commercial, and Street Architecture of France and Italy."

For the foregoing particulars we are indebted to "The Scotsman." A vote of sympathy on the death of Sir Rowand Anderson was passed at the last meeting of the R.I.B.A.

A.A. New President

Lieut. Col. W. G. Newton, M.C., M.A., A.R.I.B.A., the new President of the Architectural Association, whose portrait appeared in our last issue, was born on December 1, 1885, and is the son of Mr. Ernest Newton, C.B.E., R.A. Educated at Marlborough and Oriel College, Oxford, where he was a Senior Scholar, Lieut.-Col. Newton obtained a 2nd Class Lit. Hum. in 1908, and received his architectural education at the Royal College of Art, under Prof. Beresford Pite, and in his father's office. In 1910 he won the Architectural Association Essay Prize, in the following year obtained a Hon. Mention in the Tite Prize, and in 1912 passed the R.I.B.A. Final Examination. On the outbreak of war in 1914 he embodied with the Artists' Rifles, and in 1915 was Adjutant to an infantry battalion in the 47th Division. In 1916 he was wounded at the Battle of the Somme, and in the same year won his Military Cross. He was appointed in 1917 A.D.C. to the Chief of General Staff, G.H.Q., France, and in the two following years he was respectively Major and Lieut.-Col. of a battalion in the 47th Division. During last year Lieut.-Col. Newton was hon. sec. of the Board of Architectural Education, and obtained first place in the Competition for the Marlborough Speech Hall.

An Exhibition of Water-Colours

All students are naturally interested in the work of their instructors, if for no other reason than to learn the constructive capacity of those who daily criticize the work of their hands. The energetic staff of the London University School of Architecture have arranged an exhibition of sketches in water-colour, pen, and pencil which should not only reassure, but inspire their students.

In walking round the exhibition one is struck by the great variety of work shown. The perspective of a proposed scheme for St. Paul's Bridge, in the centre of the exhibition, by Professor A. E. Richardson, is a magnificent pen-and-wash rendering of a complicated subject, and forms a very suitable nucleus around which the exhibition is arranged. Next to this is a water-colour, "The Harvest Field," a landscape charming and restful both in composition and colour by Professor S. D. Adshead, who shows several other delightful sketches. Mr. Martin Shaw Briggs shows some good pen-and-ink sketches familiar to us in reproduction, and some water-colours.

Mr. E. Musman's work with pen and brush displays his capacity for casting a glamour of romance over objects which to many would appear mundane. Mr. James Burford's powerful imagination is best shown in his studies of old decayed dream cities, such as in his "Petit Pont." He also shows several other water-colours.

Mr. Furner's pleasant sense of colour can be seen in his seascapes and various other sketches. Mr. Harvey has many good landscapes, which are carried out in a bold and vigorous technique, and some charming pencil drawings of architectural subjects.

The delightful sketches of Constantinople and the East, by Mr. Arthur Henderson, are carried out with a delicate and sensitive touch by one who knows his subject well.

Y. Z.

A.A. Appeal for Funds

Appended is the first list of subscribers to the debentures issued by the Architectural Association to raise funds for the payment of the outstanding balance of the building debt. Promises have also been made of a further £700. As announced in our issue of May 25, the debentures are being issued in multiples of £50, amounting to £20,000, bearing interest at the rate of 6 per cent. per annum.

	£	s.	d.
Messrs. Holloway Bros.	5,000	0	0
Maurice E. Webb	250	0	0
Sir Aston Webb	500	0	0
Harold I. Merriman	50	0	0
Edwin T. Hall	250	0	0
E. Stanley Hall	50	0	0
F. and H. F. Higgs, Ltd.	150	0	0
Barrett and Wright, Ltd.	250	0	0
H. Farquharson	50	0	0
W. H. Ward	100	0	0
Total ..	£6,650	0	0

The appeal for £50,000 to endow architectural education has resulted in the following donations and promises :—

	£	s.	d.
Messrs. Holloway Bros.	5,000	0	0
R.I.B.A.	500	0	0
"The Builder"	100	0	0
The Society of Architects	50	0	0
F. C. Eden	5	5	0
G. Gilbert Scott	21	0	0
W. G. Newton	5	5	0
Knott and Collins	26	5	0
Detmar Blow	26	5	0
Maurice E. Webb	52	10	0
Academy Architecture	5	5	0
"Building News"	10	10	0
H. Farquharson	10	10	0
J. Alan Slater	5	5	0
E. Stanley Hall	10	10	0
Stanley Hamp	26	5	0
J. Leaning	52	10	0
Cyril A. Farey	5	5	0
Paul and Michael Waterhouse	10	10	0
A. Dunbar Smith	5	5	0
Henry M. Fletcher	21	0	0
G. Stickney	21	0	0
Rowland Bros.	2	2	0
Barrett and Wright, Ltd.	5	5	0
Hall, Beddall & Co., Ltd.	26	5	0
W. L. Trant Brown	10	0	0
R. C. Gleed	2	2	0
Oatley and Lawrence	25	0	0
W. J. Halls	5	0	0
Francis C. Read	1	1	0
E. O. Warne	50	0	0
Total ..	£6,097	0	0

Intending subscribers to the building fund should communicate with Mr. F. R. Yerbury, secretary, the Architectural Association, 34-35 Bedford Square, W.C.1. Donations to the endowment fund should be sent to Mr. Stanley Hamp.

R.I.B.A. Election Result

Following are the results of the ele tions for Council and Standing Con mittees of the R.I.B.A. for the ensuir year :—

PRESIDENT.

Waterhouse, Paul.

HONORARY SECRETARY.

Keen, Arthur.

VICE-PRESIDENTS.

Adshead, Professor Stanley Davenport.
Cross, Alfred William Stephens.
Dawber, Edward Guy.
Searles-Wood, Herbert Duncan.

MEMBERS OF COUNCIL.

Ashley, Henry Victor.
Barnes, Harry, M.P.
Cave, Walter.
Fletcher, Sir Banister Flight.
Gibson, James Glen Sivewright.
Green, William Curtis.
Hall, Edwin Stanley.
Hall, Herbert Austen.
Harris, Emanuel Vincent.
Lanchester, Henry Vaughan.
Lucas, Thomas Geoffrey.
Lutyens, Sir Edwin Landseer.
Munby, Alan Edward.
Peach, Charles Stanley.
Perks, Sydney.
Riley, William Edward.
Scott, Giles Gilbert.
Webb, Maurice Everett.

ASSOCIATE MEMBERS OF COUNCIL.

Bradshaw, Harold Chalton.
Hamp, Stanley Hinge.
Harrison, James Stockdale.
Slater, John Alan.
Waterhouse, Michael Theodore.
Worthington, John Hubert.

PAST PRESIDENTS.

Blomfield, Sir Reginald.
Simpson, John William.

REPRESENTATIVES OF ALLIED SOCIETIES.

Buckland, Herbert Tudor (Birmingham Architectural Association).
Flockton, Charles Burrows (Sheffield, South Yorkshire, and District Society of Architects).
Fraser, Gilbert Wilson (Liverpool Architectural Society).
Gotch, John Alfred (Northamptonshire Association of Architects).
Hennings, Arthur William (Manchester Society of Architects).
Kitchen, Llewellyn (York and East Yorkshire Architectural Society).
Milburn, Thomas Ridley (Northern Architectural Association).
Oldrieve, William Thomas (Edinburgh Architectural Association).
Whitie, William Brown (Glasgow Institute of Architects).

REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION (LONDON).

Newton, William Godfrey.

AUDITORS.

Hudson, John, *Fellow*.
Sheppard, Arthur William, *Associate*.

ART STANDING COMMITTEE.

Fellows.

Adshead, Professor Stanley Davenport.
Baker, Herbert.
Cave, Walter.
Joass, John James.
Lutyens, Sir Edwin La seer.
Newton, Ernest.
Ricardo, Halsey.
Richardson, Professor Albert Edward.
Simpson, Professor Fred ick Moore.
Webb, Maurice Everett.

Associates.

Davidge, William Rober
Farey, Cyril Arthur.
Lovell, Percy Wells.
Waterhouse, Michael Theodore.
Webb, William Arthur.
Welford, Arthur.

LITERATURE STANDIN COMMITTEE.

Fellows.

Ambler, Louis.
Briggs, Martin Shaw.
Corlette, Hubert Chri tian.
Green, William Curtis.
Hall, Edwin Stanley.
Statham, Henry Heat cote.
Stratton, Arthur.
Townsend, Charles Har son.
Ward, William Henry.
Waterhouse, Percy Lesli

Associates.

Ansell, William Henry.
Bradshaw, Harold Cha ton.
Budden, Lionel Bailey.
Edwards, Arthur Trysta
Slater, John Alan.
Worthington, John H bert.

PRACTICE STANDING COMMITTEE.

Fellows.

Ashley, Henry Victor.
Clarke, Max.
Cross, Alfred William Stephens.
Forrest, George Topham
Keen, Arthur.
Lovegrove, Gilbert Henr
Peach, Charles Stanley.
Perks, Sydney.
Slater, John.
White, William Henry.

Associates.

Cockrill, Gilbert Scott.
Cubitt, Horace William.
Emerson, Harry Valentin Milnes.
Scott, John Douglas.
Solomon, Digby Lewis.
Welch, Herbert Arthur.

SCIENCE STANDING COMMITTEE.

Fellows.

Adams, Harry Percy.
Ayling, Robert Stephen.
Clay, George Felix Nevill
Crompton, William Ed ward Vernon.
Hooper, Francis Georg Fielder.
Munby, Alan Edward.
Russell, Samuel Bridg man.
Searles-Wood, Herbert Duncan.
Smith, Prof. Ravenscrof Elsey.
Unwin, Raymond.

Associates.

Angel, Robert John.
Burrows, Henry William.
Daubney, Charles Archi bald.
Elkington, George Leon ard.
Markham, John Hatton.
Woodward, Charles.

Correspondence

Unification and Registration Committee

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—We view with some alarm the resolution of the above committee that ll architects should be allowed to become members of the R.I.B.A. Up to the resent the committee make no recommendation dealing with the second subect referred to them, and if the proposal s to form part of a Registration Bill we ee no reason to object to it, for we are trong advocates for a Registration Bill hat would be of real use to the profession, nd we urge the R.I.B.A. to prepare a Bill of that nature forthwith. Unless this e done, we suggest that members of the R.I.B.A., and particularly our Associates, hould carefully watch developments, and hat they should regard with caution, if ot suspicion, any argument based on the dea of first accepting the above proposal with a view to the possible framing of a Registration Bill at a later date. Until we obtain our Registration Act, the basis or admittance to our ranks should be xamination, and for their own sakes, as well as for the position of the R.I.B.A. s a learned society, we ask our members o resist any tampering with our constiution.

(Sgd.) ALFRED W. S. CROSS,
V.P., R.I.B.A.,
H. D. SEARLES-WOOD,
GEORGE HUBBARD,
SYDNEY PERKS,
CHAS. B. FLOCKTON,
DIGBY L. SOLOMON (Associate).

Mr. Roger Fry's "Five o'clock"

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—While one may reasonably doubt whether catch-words and phrases attain the object toward which they are directed, their ingenuity is sometimes worthy of something better than oblivion. It is, for instance, to be noted that while "The Whirling Squares" of Mr. Hambidge may fail to elucidate the magic of Greek design, yet as a signboard to a house of entertainment the potential suggestion should not fail to attract. How compelling, how dynamic, would such a sign be, in opposition to the ancient and static "Chequers," situated possibly on the other side of the way!

And now comes Mr. Roger Fry with his "Cube and Cylinder," upon which he proposes to establish the elements of architecture. Again, what an opportunity for a licensed house—of reformed character, of course—standing in a Garden City!

"The Goat and Compasses," "The Cat and Fiddle"—both have welcomed us in their day. But beneath the swing of "The Cube and Cylinder" the town-planner wearied of town-planning, and the town-planned, might suitably seek refreshment and mutual consolation.

C. J. T.

Mr. Chas. MacLachlan

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It is with much regret that I have to inform you of the resignation of our Honorary General Secretary, Mr. Chas. MacLachlan, A.R.I.B.A., as a result of pressing business affairs requiring his time and attention. His late duties have been undertaken temporarily by Mr. John B. Hector, M.S.A., vice-chairman of the Executive Council, to whom all communications intended for the Union should be addressed.

The Architects' and Surveyors' Assistants' Professional Union is under a heavy debt of gratitude to Mr. MacLachlan for his untiring energies, devoted so whole-heartedly to its service during over two years of its history. It is, therefore, the wish of the Executive Council that this indebtedness should be placed on record, and I take this opportunity of expressing on its behalf their high appreciation of his services, but for which there is reason to doubt that the Union's thriving condition at the present time would have been possible.

P. W. FARMER,
Chairman.

Architects and Ex-Service Pupils

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It is announced in the current issue of the R.I.B.A. Journal that the authorities at the architectural department of the Northern Polytechnic Institute, Holloway Road, propose placing their ex-Service pupils in offices during the school's vacation, with a view to giving these men the benefit of "office experience." Is this not something of an anomaly at the present time, when so many professional architectural assistants are unemployed? Reference to the assistants' ledgers, either at the R.I.B.A., or the Society of Architects, or the Assistants' Professional Union, will reveal the serious fact that a great and increasing number of bona-fide assistants are out of employment owing to paucity of work generally.

Are these men to be further injured by the exploitation of Polytechnic students in the offices of architectural practitioners for the sake of "office experience"? I can well believe that experience is very necessary for the students in question, but not to be obtained (one ventures to hope) at the expense of qualified men whose work constitutes their livelihood, and in many cases the maintenance of homes and families. It is undeniable that no profession has suffered more than ours in consequence of the war and its aftermath, and such a procedure as that contemplated cannot be in the public interest.

ARTHUR J. SPARROW, A.R.I.B.A.

[We feel sure that it had never occurred to the authorities at the Northern Polytechnic Institute that the suggested placing of pupils in architects' offices during vacation might result in the displacement of qualified assistants. It is obvious, however, that the serious consequences anticipated by our correspondent could very easily materalize.—EDS. A.J.]

"Building a House"

Mr. Henry M. Fletcher, M.A., delivered the fifth of the popular Thursday afternoon lectures on Architecture at the R.I.B.A., taking as his subject "Building a House." Mr. Ernest Newton, C.B.E., R.A., took the chair.

As an alternative title to his address, Mr. Fletcher said that it might be called "What an Architect Does." Then he went on to explain how the site should be chosen, and why the architect should always be consulted from the first. Then came the preliminary rough sketch plans to one-sixteenth of an inch scale, giving suggestions for the layout and the like. Then followed the working drawings, with plans of each, and two or more sections drawn to one-eighth inch scale. There was, Mr. Fletcher said, no more fascinating procedure in the world than planning.

Plans, sections, and elevations must be worked all together, and after the getting-out of the eighth scale, there came the half-inch details and then the quantities. Here Mr. Fletcher turned aside to explain what bills of quantities were, and who a quantity surveyor might be, and his qualifications—which were only less legionary than those of the architect.

Tendering was proceeded with, acceptance of one of the estimates, and the arrangement and signing of the contract, and the work could go ahead.

He had almost forgotten the local authorities, but they must not be so lightly dismissed. They might be divided into two classes—humans and red-tapers.

Supervision of the work must take place, full-sizes must be got out, and frequently there were necessary and unnecessary modifications required by the client.

The perfect client was feelingly described by the lecturer, and the perfect house was one of which the perfect client had said, at the very outset of the work: "I don't care what it costs, but when it's finished I want it to look as if it had cost nothing at all."

Fuel and Finance

One means of solving or assisting, at any rate, to solve the coal question is to get the greatest possible value out of every ton of coal that is mined in these islands. Whatever the outcome of the coal stoppage the cost of producing coal must remain higher than the relative pre-war cost. How can this higher cost be off-set? There is only one way. If the *cost* of a ton of coal is to be *higher*, we must make the *value* of that ton of coal *greater*. Britain must in future treat coal *not as a fuel but as a raw material*, from which fuel, amongst other things, can be obtained. Such are the arguments which are developed in an illustrated pamphlet just published. Suggested methods of coal conservation are discussed, interesting tables are published, and the full text of an address recently delivered by Mr. E. W. L. Nicol, the fuel expert, is included. Copies of this pamphlet, which is entitled "Fuel and Finance: The Coal Crisis and After," will be sent (price 6d., post free) on application to the Secretary, The British Commercial Gas Association, 30 Grosvenor Gardens, London, S.W. 1.

The Week's News

A Friend of Gladstone.

The death is announced of Mr. Thomas Bailey, builder, of Hawarden, a friend of the late Mr. Gladstone.

Bristol School of Architecture.

The Prince of Wales opened last Friday the new School of Architecture at the Royal West of England Academy, Bristol.

Islington's £330,000 Building Scheme.

Islington Borough Council has adopted a scheme for erecting new municipal buildings on the Tyndale Place site, in Upper Street, at a cost of £330,000.

Sutton Housing.

The Council has decided to proceed with the erection of a further sixteen, or, alternatively, thirty-two or forty-four houses on the Bute Road site.

The New London County Hall.

It was recently stated during a debate in the House of Commons that the total cost of the new County Hall, with furniture, would be £4,344,000.

Mr. Guy Dawber's Silver Wedding.

Mr. Edward Guy Dawber, past Vice-President of the Royal Institute of British Architects and of the Architectural Association, and Mrs. Dawber, have recently celebrated their silver wedding.

Darlington's Housing Scheme.

Darlington T.C. has applied for sanction to borrow £20,000 for the laying of a main sewer in the Cockerton Valley, in connexion with the Corporation's scheme for building 970 houses.

Houses for Exeter.

The Town Council has approved the proposal for the erection of 160 houses upon the Buddle Lane Estate, and is applying to the Ministry of Health for sanction to proceed with road and sewer making.

Houses for Whitwood.

The U.D.C. has decided to submit a housing scheme on the Methley Road site for the approval of the Ministry of Health. Seventy houses out of a possible 200 are to be begun, and the scheme is to include a recreation ground.

New Wireless Tower for Japan.

The highest monolithic structure yet built is said to be the reinforced concrete wireless tower built at Tokio for the Japanese Government. It is 660 ft. high above the ground, and tapers from 55 ft. in diameter at the bottom to 4 ft. at the top.

Additions to the Royal Exchange.

Important additions are being made just now to the Royal Exchange. On the roof four new rooms are being built for Lloyd's, so as to cope with the yearly increase of underwriting; and if these prove insufficient arrangements will be put in hand for more.

Bricks from Denmark.

Arrangements have been made by the Dundee Housing Committee for shipping bricks from Denmark for use in the housing scheme of the city. The bricks are to cost £2 5s. per thousand less than is being paid for British-made bricks at present.

Felsted War Memorial.

The new war memorial in the chapel of Felsted School will be unveiled on Thursday, June 16. The memorial, consisting of a carved oak screen on which are inscribed the names of old boys, masters, and servants who fell in the war, has been designed by Mr. Frank O. Salisbury.

Architectural Assistants.

Professor A. E. Richardson, F.R.I.B.A., is in a position to recommend students at the School of Architecture—the majority ex-Service men—who will have completed their courses on July 7 next. Architects and others requiring assistants are invited to communicate with Professor Richardson at University College, London.

Almondbury War Memorial.

Sir Charles Nicholson designed the cross which forms the war memorial at Almondbury, and which was recently dedicated. It follows the general lines of an old English village cross, and is hexagonal in plan, rising from four bold steps to a height of 19 ft. The wall of the churchyard has been recessed and rebuilt to receive it.

Architects at Cricket.

On Wednesday, June 29, a cricket match will be played between the R.I.B.A. and the Architectural Association, on the latter's ground at Elstree. Members and students of the R.I.B.A. who are free to play should send their names to the secretary, 9 Conduit Street, W.1, so as to enable Mr. Curtis Green, F.R.I.B.A. (Captain), to select the strongest possible team.

King's Sculptor for Scotland.

The King, on the recommendation of the Secretary for Scotland, has revived the office of Sculptor in Ordinary to His Majesty for Scotland, and has approved of the appointment to that office of Mr. Pittendrigh Macgillivray, R.S.A., LL.D. The last holder of this office, Sir John Steell, was appointed Sculptor to the Queen for Scotland in 1838, and since his death in 1891 no successor has been appointed. Mr. Macgillivray is a native of Aberdeenshire, and was a pupil of William Brodie and John Mossman. His principal works are the John Knox memorial in St. Giles's Cathedral, Edinburgh, the national memorial to Gladstone, the Burns statue at Irvine, and the Dean Montgomery memorial in St. Mary's Cathedral, Edinburgh.

The Late Mrs. Thomas Simpson.

It is with deep regret that we announce the death of Mrs. Thomas Simpson, the mother of Mr. John W. Simpson P.R.I.B.A. The venerable lady was ninety-one years of age, and retained, until quite lately, full possession of her faculties, both mental and physical. The funeral took place at Brighton, the town in which Mrs. Simpson resided. Mrs. Simpson was the widow of an architect, and of her four sons two are architects, Mr. John W. Simpson and Mr. Gilbert Simpson, the latter succeeding his father as architect to the Brighton Education Authority and other bodies. Mr. Thomas Simpson, the father, was the successor of his uncle, a very well-known architect in his day. The other two sons are both doctors, one the senior consulting surgeon to the Sheffield Royal Hospital, the other in practice at Hove.

Trade and Craft

Messrs. Tredegars' Outing.

On Saturday, June 4, the staff o Tredegars Ltd., decorators and electrica engineers, of 5, 7, and 9 Brook Street, W.1 entertained the directors of the firm t a very enjoyable motor drive through th charming scenery of Surrey, proceedin via Ewell to Box Hill. Tea was taken a the "Star and Garter," the journey bein continued to Shere, where a halt wa made before returning. The journe home was made via Guildford, Ripley and Kingston, home being reached abou 9.30.

Reinforced Concrete Construction.

An interesting booklet has been prepared and issued by Messrs. Peter Lind Co., of 2 Central Buildings, Westminste S.W. 1, engineers and contractors for reinforced concrete constructions, with th object of placing before their friends an prospective clients some typical example of the work executed by the firm sinc 1915. The work shown is of great variet —from engineering buildings and workshops to footbridges, and even tugboats— and the illustrations are in many case accompanied by plans and sections. I an introduction to the booklet the fir give some brief particulars with regard t the policy forming the basis of thei organization.

Electric Light Fittings.

Messrs. Simplex Conduits, Ltd., o Garrison Lane, Birmingham, have issue a new illustrated leaflet, No. 881, givin some interesting facts with regard to th Simplex unit system of electric ligh fittings. As its name implies, the syste consists of a small number of interchangeable parts which may be so assembled as to form fixtures for practically any possible position and of any desire shape. Illustrations are given of th nineteen component parts of the syste and some of the uses to which they ma be applied. A little ingenuity will multiply the variety many times. Th system is particularly suitable for electrical engineers who are remotely situate from sources of supply of fixtures.

Gas Economy Leaflets.

A large amount of valuable informatio of everyday use to consumers of gas i given in "Paying for Gas on a New Basis," "Washing and Ironing Days," and "Thrift in the Use of Gas," three o a series of leaflets issued by the British Commercial Gas Association. The first-named, an article by Professor A. Smithells, of Leeds University, describes in simple language the new method of charging for gas by the "therm." The second and third are of especial and vital importance to every housewife who wishes to secure the highest efficiency accompanied by the greatest economy. The remainder of the leaflets issued by the Association, and forming the series, deal respectively with the "all gas house," cooking, water-heating, fires, refuse destruction, and lighting. The Association is not interested in any one maker of gas appliances, but is a co-operative research and advisory body representing the gas undertakings of the whole kingdom, company and municipal. The offices of The British Commercial Gas Association are at 30 Grosvenor Gardens, London, S.W. 1.

dnesday, June 22, 1921. Vol. LIII. No. 1381

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

EDWARD MIDDLETON BARRY (1830-1880)

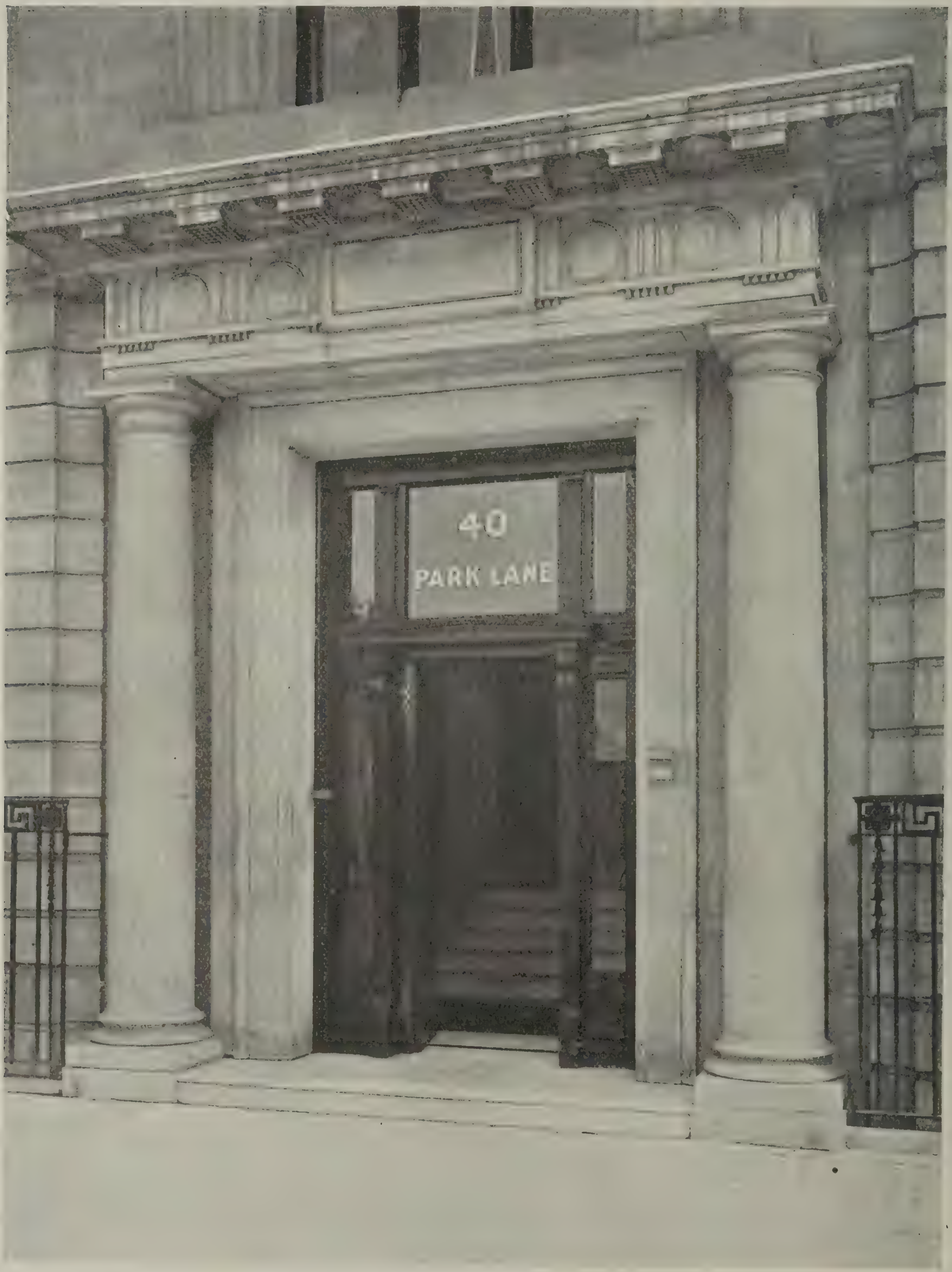
E. M. Barry, the son of Sir Charles Barry, was born in London. Educated at a private school and afterwards at King's College, London, he entered the office of Thomas Henry Wyatt, afterwards assisting his father in his professional practice. Among his early designs were St. Saviour's Church, Haverstock Hill, 1855-6; and St. Giles's Schools, Endell Street, 1859-60. Later he reconstructed Covent Garden Theatre and the Floral Hall adjoining. On the death of Sir Charles Barry, the duty devolved upon him of completing his father's works, including the Houses of Parliament. Among his many executed works are Charing Cross and Cannon Street Railway Stations, the completion of the grand staircase at Fitzwilliam Museum, Cambridge, the Inner Temple Buildings on the Thames Embankment, and the Opera House at Malta. He was elected A.R.A. in 1861 and a full Academician in 1873.

27-29 Tothill Street, Westminster, S.W.1.

Current Architecture. 90.—Flats, No. 40 Park Lane, London, W.

Detail of Principal Entrance

Frank T. Verity, F.R.I.B.A., Architect.



The large block of flats which has just been completed near the Marble Arch, from the designs of Mr. Frank T. Verity, forms a distinctive addition to the architectural attractions of the West End. The very dignified entrance doorway shown above is on the centre line of the elevation facing towards Park Lane.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, June 22, 1921 Volume LIII. No. 1381

Notes and Comments

Institute Policy in the Provinces

It has beeen represented to us that our customary comments on the results of the R.I.B.A. elections have been this year "greatly missed." Our correspondents may be reminded that we dealt with the subject in advance. Consequently but little remains to be said about it. Certainly the returns are of good augury for Unity and Registration; for the candidates returned are, almost without exception, presumably in favour of the Institute's policy. The fact that some, at least, of those who have failed to secure election are equally ardent supporters of the policy is merely a further proof of the solidity of the members; and if unanimity could secure Unity, the cause would be already won. It will go a great way towards it; but the fruits of victory depend on the success in an arduous and possibly a protracted campaign. Any tendency towards slackness would be fatal to the issue that, as the results of the elections show, the Profession is unanimous in desiring. Equally, unanimity at the oars—"a long pull, a strong pull, and a pull all together"—will bring us to "the haven where we would be." Having elected these gentlemen, the voters should not sleep on the event, but keep on the alert to give their chosen representatives all possible help and advice. It is immensely helpful to an elected body to feel that it is working for a wide-awake constituency, prompt to praise or condemn as it sees fit, and the more competent in criticism because of the enlightened policy of the Council in taking the Profession into its confidence on all matters in which it is desirable or practicable to test its feeling, or, as it were, "take its temperature." In so vital an undertaking, it is obviously of high importance that that the Institute shall carry the entire Profession with it, and should be able to ascertain what architects throughout the kingdom are thinking on the matter, and what they are able and willing to do in it. Hence the arrangement of a programme of provincial conferences, beginning next Thursday week with Liverpool, where much valuable opinion will no doubt be elicited. These provincial conferences will never, even in extreme instances, begin and end with talk. They will fail completely of their main object if they do not produce practical results, among the most important of which will be the missionary effect in the district visited. They will not thus fail. The most sluggish and supine of local associations will be stirred to wholesome activity. Converts will be made, membership will be augmented, interest in organization will be strongly stimulated, attendances at meetings will be trebled, lecturers and subjects will be more carefully chosen. The way to get the public to take more interest in architecture is to get the architects to take more interest in the subject themselves, and more interest in each other. Some architectural associations—Liverpool and Bristol as shining examples—show abundant vigour and vitality. Others, it cannot be denied, decidedly want waking up. They will be aroused to a keener sense of the benefits of organization, of unity and fraternity. The true "spirit of association" will stimulate them to mutual aid and mutual trust. In that spirit, in that temper, we make no doubt, the large issues with which the Institute is grappling will be discussed at the local conferences. Disagreements on details there must be. They should be welcomed as a sign of health and vigour, but should not lead to acrimony, or to dissidence for the sake of contentiousness. Upon the main principle, however, there must be virtual unanimity, or the campaign for Unity and Registration will be lost. It is beyond all things necessary, as a point of policy, to show the public, and to show Parliament, that the Profession is of one mind in this matter, or the Legislature will refuse to give it status as one body.

Sir E. L. Lutyens, Royal Gold Medallist

Sir Edwin Landseer Lutyens, R.A., was on Monday presented, in due form, with the Royal Gold Medal. He is easily its most popular recipient—that is to say, he is much better known, by the fortune of war—than any of his predecessors in the signal honour to which he has attained. Readers of this JOURNAL need not be reminded that Sir Edwin owes his eminence to no mere freak of fortune. His conspicuous merit as an architect would have entitled him to it if the Cenotaph had never been designed, even as his achievements through the exercise of his singularly happy and conspicuously original talent marked him out as a fit creator of the new Delhi. Sir Edwin attains to this, the highest honour that his brother professionals could pray the King to confer upon him, not (as usually is the case in conferring this honour) at the close of a splendid career, but while he is still in the prime of life, and has hardly yet reached the grand climacteric of his art. May he live long to enjoy the honour he has so finely earned!

The Late Havard Thomas

By the death of Mr. J. Havard Thomas, an example of whose work is illustrated in this issue, the British school has lost a representative who was an honour to it. More conscientious or more faithful art has been seldom seen. One does not hesitate to claim him for the British school, for while art is cosmopolitan, and Thomas had made the atmosphere of Florence a part of himself, a man may not easily shed his nationality even for art's sake. Thomas's work was unmistakably though not aggressively British, although he had sojourned much in Italy and had worked in the Paris Beaux-Arts schools. He was not very prolific, possibly because he sought delicacy and perfection of craftsmanship over-carefully, or perhaps because, of late years, most of his time was occupied as Professor of Sculpture at the Slade School of University College, London, where his ripe scholarship in all that applied to his art must have left a profound impress on his students, to whom his rare skill in modelling will be an abiding inspiration. In adorning this vocation he doubtless rendered high service to sculpture; yet one cannot help regretting that his admirable fulfilment of the teacher's function must have deprived us of many noble works like his "Thyrsis," and his "Lycidas," and of many a masterly bust to which he could impart a sort of poetically imaginative insight without detriment to extraordinary fidelity of portraiture. He was perhaps less happy in his groups, and his "Boadicea" at Cardiff is admittedly not one of his happiest efforts. Like most sensitive artists, he sometimes fell a little—never but a very little—below his own high standard; but his least successful work never sinks to mediocrity, and there is no exaggeration in the verdict that when he died, at the age of 67, he had become the strongest force in English sculpture. His work was delicate yet strong, academic without aridity; and his influence is more precious than his achievement.

Music and Architecture

A very pleasant communication reaches us from Basingstoke. It supports rather strikingly the claim for architecture that the general public are glad to be informed about it, and that their seeming apathy is mainly due to its neglect in the lay newspapers. Our Basingstoke correspondent explains that, not being himself an architect, he nevertheless reads the JOURNAL for its architectural interest. That is almost, or quite, as delightful a portent as the delivery, as the newspaper cutting records, by the Rev. Dr. Boustead, at a meeting of the North Hants Clerical Society, of a discourse on Music and Architecture, the architectural section of the lecture being illustrated with lantern slides shown by the Rev. G. Sampson, Vicar of Ramsdell. The slides included the Parthenon, Somerset House, the National Gallery, the Madeleine, Santa Sofia, St. Paul's Cathedral, and the Taj Mahal, and other world-renowned buildings. Music does not need the support of architecture, nor architecture the support of music to ensure popular success for a lecture on either subject; but the report leaves no doubt about the interest aroused by the architectural slides. It is a very hopeful sign that lantern slides of fine buildings never fail to arouse and maintain keen interest; and the lantern, already an approved instrument of architectural, as of most other kinds of propaganda, will no doubt be freely used in the campaign of popular education in architecture on which the various professional organizations are entering with ever-increasing vigour. In this endeavour to instil into the public mind a love of the beautiful and true, the aid of the clergy is warmly welcomed; and our Basingstoke correspondent is cordially thanked for his kindness in drawing attention to a delightful case in point.

Ken Wood, Hampstead.

Success should certainly attend the effort to preserve Ken Wood, not merely because of the beautiful natural scenery of the spot, but because set in the midst thereof is an interesting house that Robert Adam finished for Lord Mansfield. Its chief architectural glory is its library, with its fine painted "barrel" ceiling, its fluted columns with gilt Corinthian capitals, its sculptured friezes, and its bookcases of Adam design. The Preservation Council which has been formed, has secured from Lord Mansfield an option to purchase the house, with the estate of 220 acres, for £340,000—a price that is considerably less than the owner could get from the building syndicates that are anxious to purchase.

A Fragonard Exhibition in Paris.

Nearly 400 of the works of Fragonard—100 paintings and nearly 300 drawings—have been exhibited (from 8 June) at the Musée des Arts Décoratifs, in Paris. All the great Paris collections were well represented, the Banque de France lending the very precious "Fête de Saint-Cloud." Of the artist a Paris correspondent of "The Times" has said very truly that "of all French painters, no master is more typically French than Fragonard; no artist is less accessible to the foreign eye; no brush has used more idiomatic touches. The result is that Fragonard's pictures have nearly all remained in France, and that for lovers of Fragonard a pilgrimage to Paris is as necessary as a month in the Prado for the admirers of Velazquez." Again, this observation is very true, and its expression approaches epigram: "Fragonard ignored prudery; but his audacity never verges on the indelicate." Surely as a master of technique, Fragonard is unrivalled—a claim that was fully established when, many years ago, some very fine examples of his work were exhibited at the London Guildhall.

An Early Dwelling of Dickens

The chronicles of literary London have failed, until now, to take into account the house in Somers Town in which Charles Dickens lived when he was a boy of twelve to thirteen, working at a blacking factory. This factory was not the one in the Borough to which the delicate and sensitive boy's early hardships are commonly assigned, but Day and Martin's, in High Holborn, not far from where Messrs. Batsford's treasury of architectural publications now stands. The Somers Town dwelling—No. 13 Johnson Street—has been purchased by Magdalen College, Oxford, and is being fitted for use as a library for children, an enterprise of which Dickens, who, as a child, got great consolation from books, would have approved most cordially. In effecting this conversion, every respect is being shown to the memory of the small boy who in after years became a great novelist. Everything upon which the child's eyes can be rationally assumed to have rested is being carefully and sympathetically preserved—even the door-knocker, which possibly young Charles often jumped up to touch with his hand; and some of the walls have been covered with the marble paper with which his eyes were familiar. A tablet recording the fact that Charles Dickens lived here when a child has been erected on the front of the house by the London County Council, who, of course, have assured themselves of the authenticity of the record.

Dickens Relics—Perhaps

Underneath one of the floors the workmen found some marbles. Evidently they had been there for a very long time, and the architect of the restoration is so keen a Dickens enthusiast that he likes to invest them with pathetic interest as playthings that the poor and lonely lad loved and lost—that he shed bitter tears when the alley-taw disappeared down a mousehole. This, of course—the architect will pardon the comment—is purely sentimental conjecture. Many generations of children must have played with alley-taws in that house since Dickens left it. Certainly the game of marbles must have been very common in his childhood's days. Hence the reference to it by his great contemporary Thackeray: "I thought she was an alley-taw, but she turned out to be only a commony."

The Liverpool Conference.

The Liverpool Architectural Association has now completed the arrangements for the great gathering of architects there this week under the auspices of the Royal Institute of British Architects. The headquarters will be in the Conference Room in the Walker Art Gallery, where there will be an exhibition of students' drawings. The official opening will be at 10 a.m. on Friday, when the Lord Mayor of Liverpool will hold a reception. Mr. J. W. Simpson, President R.I.B.A., will be in the chair at the meeting following, when papers will be read and discussed on "The Unification and Registration of the Architectural Profession"—a subject of deepest interest; "Official Architecture" and "Propaganda and Publicity." After an excursion to Port Sunlight, a banquet will take place at the Midland Adelphi Hotel. On Saturday the papers will deal with "Building Contracts," "Architectural Education," and "Present Day Building Problems." Visits to the Liverpool Cathedral and the Cunard Building will be paid, and the White Star Company has arranged for a trip up the river. The Conference will close on Sunday with service in Liverpool Cathedral.

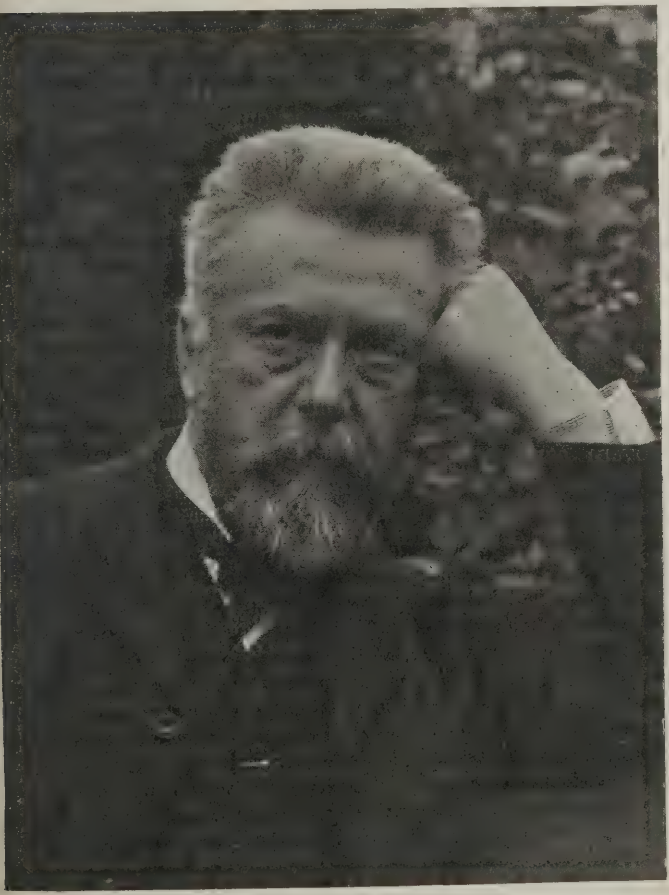
Architectural Causerie

A Burton Building Preserved

YORK House, Regent Street, is not likely to share the fate of the other buildings in that unfortunate thoroughfare whose leases will expire shortly. Designed in 1839 by Decimus Burton to serve the purpose of a bachelors' club with residential chambers, it some time later became the house of business of Howell and James (immortalized by W. S. Gilbert), and was subsequently converted to the uses of the Junior Army and Navy Stores, who have since amalgamated with the Civil Service Supply Association, in the Haymarket. As a result of some recent alterations, the building has been granted a new lease of life, and now faces the world in the character of a modern block of offices. Burton's plan has been retained as the nucleus of the new scheme, and the entrance porch has been simplified. It is pleasant to see the building in its summer coat of cream, with a footing of suède, and to note that a pair of "antique" Regency lamps nod an affectionate recognition to the lamps outside Nash's mansion across the road. It is a pleasure to record the preservation of any respectable building in these days of frantic destruction.

The King's Sculptor for Scotland

Pittendrigh Macgillivray, R.S.A., LL.D., who has just been appointed to the honourable office styled "His Majesty's Sculptor-in-Ordinary for Scotland," has long been one of the most outstanding artists in his profession in Scotland, and, though seldom exhibiting outside Edinburgh, his reputation is widely known. He is the product of a studio training, simply, and a thorough craftsman in all pertaining to the technique of his art. His Gladstone Memorial is notable as being throughout a work of great individuality. A balanced style, reflecting classic and Renaissance art culture, with sure craftsmanship in execution, are characteristics of his work; but modernity of expression and personal character are very evidently there also. The latter qualities are, perhaps, most manifest in his portraiture. Dr. Macgillivray is recognized in Scotland as a cultured exponent and convincing advocate of all relating to his art; and has also, through the medium of the Royal Scottish Academy's exhibitions, done some unique work in bringing together collections illustrative of the various modern schools of sculpture, especially those of France and Belgium.



DR PITTENDRIGH MACGILLIVRAY, R.S.A., LL.D.

As the name indicates, he is characteristically a Scot of the old race which gives most distinction to the people of Scotland, and with him—as may be gathered from his volume of verse entitled "*Pro Patria*"—the spirit of race and nationality is esteemed of fundamental and high consideration. He is opposed to the wild hunts after originality along lines of little better than morbid eccentricity. Whatever is to be of enduring quality in the arts must, he thinks, be based on what, by consensus of opinion, may be termed the historical-normal in ideals and experience.

Sculptors throughout the country will be gratified by this instance of direct State recognition of the art of sculpture, which so uniquely obtains in Scotland; the more especially as the honour has been bestowed on one so well known as an artist and as a man ever ready to advance the honour and the welfare of their art.

The Skyscraper Poetized

How very fond our American friends are of adorning speech—and skyscrapers! Here is a sample from the current "Scribner": "To-day what does the famous sky-line of Manhattan express? We scarcely attempt to define it ourselves in words, though many foreign visitors try to define it for us. One critic says: 'America has dipped the Greek perfection in a bath of morning freshness in creating the skyscraper, beauty crowning utility.'" The voice may have been foreign, but the diction is distinctly American. But we hardly think that the Greek perfection needed that bath of morning freshness.

Eighteenth-century Statuaries

There is a good deal of building going on in London in spite of industrial unrest. Sites that have been vacant for years are now being turned to advantage. For example, building operations were begun last week near St. Pancras, in Euston Road, on land formerly occupied by three terrace houses. These operations, to pass to another subject, revealed the curious fact that the land was formerly the site of a stonemason's yard. In this regard it is a matter for speculation as to where the vendors of good "goddes" have gone. One may journey from the "Angel" at Islington to Regent's Park and count the monumental masons on the fingers of one hand. The late Professor Havard Thomas held that all the sculpture of the eighteenth century was beneath contempt, particularly those works which conformed to safe and standardized recipes. He viewed the passing of the old stoneyard from the New Road with perfect equanimity. A well-known architect, discussing sculpture with Professor Thomas shortly before his death, was extolling the work of the eighteenth century statuaries. The Professor called down thunder. It was doubtful, he said, whether Bacon, Nollekens, Carlini, or Chantrey ever produced anything worth looking at. The architect replied that from his point of view Flaxman was one of the greatest sculptors of all. This seemed to astonish the Professor; but when the architect explained that his belief was founded on the fact that Flaxman modelled figures for Wedgwood teapots, and so brought sculpture within the purview of the ordinary man, he was smilingly disposed to agree.

Competition Handicaps

By WILLIAM HAYWOOD, F.R.I.B.A.

ASSUMING that the current architecture of public buildings in England is not at the level of equivalent buildings abroad, it occurs to me that it may be worth while to probe a little into the reasons for this; and because much of this sort of building is the result of competitions, or shall we say of the imprimatur given by competition success, it may assist if we consider some details of competition requirements which have unreasonably hampered the advancement of design in England during the last thirty years or so.

The hindrances referred to are not great in themselves, but on consideration they will be found largely responsible for certain deficiencies in scale, peculiar to most of our recent buildings of importance; and if there is a sufficient measure of agreement upon this conclusion, then it may not be impossible to secure a freer scope for our professional ability in the future.

There is for instance the fetish of the " outside corridor " type of planning for public buildings, which I believe was originally made popular by Brydon. It is an admirable arrangement in certain cases, usually for comparatively small buildings, or on special sites, but with nothing to justify its universal adoption. On the contrary, it may make, and often has made, fine planning impossible.

There is no need to labour the point: those of us who have struggled to achieve some strokes of efficient planning despite this incubus know what a curb to the imagination it can be, yet the " outside corridor " has been regularly stipulated in Conditions of Competition up to the present time, or, if not literally asked for, is still inferred by the clause referring to " well lighted and ventilated corridors," which, combined with a knowledge of the assessor, his works, and previous awards, is equally conclusive evidence in the same direction.

Now if the " central corridor " can often be used to give greater economy of outlay, economy of use, and a finer scale in planning than the outside arrangement, it may be urged that competitors who embody such advantages in their scheme will receive proper consideration from the assessor for the points made, and that this disposes of the difficulty.

Of course, this plausible attitude is just that which has been adopted so often in the past, and for which there is not a good word to be said. When conditions are laid down which are a hindrance to the best interpretation of a given project, it is impossible for the competitor to know how far such conditions are adjustable, whether they are due to an immovable fancy on the part of the client, or to misjudgment on the part of the assessor upon which he is open to conviction. He should therefore be held strictly to the terms of the competition. No other method is just.

Unfortunately, there have been cases where rebellion against the conditions laid down has been successful. The Board of Trade Competition for instance, also that for the London County Hall, in each of which cases, had other competitors taken the same licence as the winner, there would have been a much wider range of choice, and possibly a different selection.

The best course in competitions would be to specify only those conditions which are to be absolutely binding, and preferably to leave the programme as wide and open as possible on all points of planning other than the schedule of accommodation. Some recent American programmes for instance sound a note, for the mere echo of which English designers would be extremely grateful.

But far from giving the least encouragement to our designers by a generous initiative, it is usually the first work of client and assessor to make monumental architecture next to impossible for us. They evidently do not seem to realize that the conception of the programme is of such importance that it practically determines from the outset whether the proposed building is to be an artistic success or otherwise. There is the typical case of Devonport, for instance, where it seemed good to the Council and assessor that the same block of building should contain the usual Council rooms, offices, and departments, a Guildhall, a Law Courts, a Police Station with cells and exercising yard, a Fire Station with drilling ground, and one or two Assembly Halls for public letting. Six distinct units, each of which usually has a site to itself, but which in this case must be piled together, and yet each have its own proper emphasis and entrances. To complete a hopeless problem the whole medley was to be erected on a site which tilted upwards at an angle of 12°, and fronted on a road about 40 ft. wide, on the other side of which was a level crossing, with the indifferent buildings of a suburban passenger station and goods depot.

I doubt whether any amount of talent would enable our designers to do a really fine thing with a programme of this sort. Yet it is not uncommon—we have a variant of it in Birmingham in our so-called Council House Extension. This is a huge block of buildings 330 ft. × 270 ft. by about 40 ft. high, occupying a complete island site, and yet without a single intelligible feature.

It seems to me that this is not the architect's fault, but the fault of those who drew up the programme, and unless the assessor in this case pointed out the disastrous consequence of crowding Gas Offices, Tramway Offices, Education and fifty other offices into the same building with an Art Gallery, he must share the blame for the unsatisfactory result.

Certainly the client, or assessor, or both, must bear the chief blame for meanness in much of our public architecture. The client puts down his requirements, the assessor makes a trial plan, and advises him that a scheme such as the Devonport or Birmingham scheme referred to above is possible. The battle is therefore lost before it is joined.

Can we remove this handicap, or rather two handicaps? The first should not be so very difficult, and I have great hopes for future improvement here because local authorities are noticeably more accessible than they were to reason in such matters. The second is quite open to treatment by the profession itself.

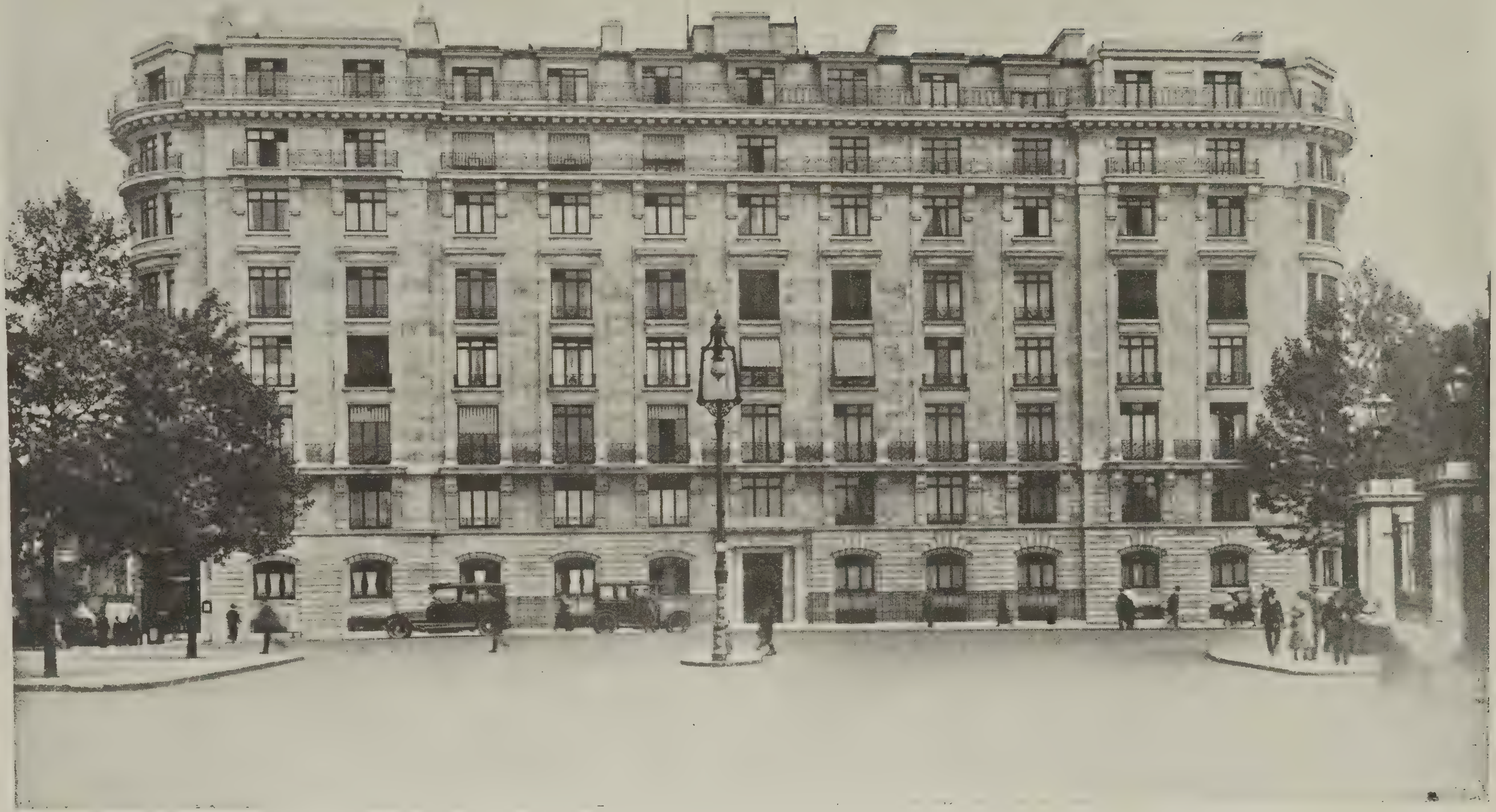
The selection and behaviour of assessors in the past leaves much to be desired, and as a remedy I suggest that Institute nominations for this office should only be made from an agreed list of names voted to the rank of assessor every year by members of the Institute. The voting to include the class of assessing for which each nomination is made. This method would leave private selection untouched, but the profession as a whole, so far as Institute selections are concerned, would be given a reasonable representation in a matter which affects them profoundly.

In conclusion, may I tilt at those of our by-laws which govern sanitary provision and equipment. Apparently it has not yet occurred to our local authorities, or to anyone else for that matter, that some concessions are long overdue to the new conditions created by our remarkable advances in sanitary science.

The by-laws which require sanitary offices and service pipes to be on outer walls were framed to meet the known or feared deficiencies of a water-carried sewage in the early days of the new method. It may be that they were reasonable then, as I believe they are still reasonable for certain classes of property, but in any building which is able to afford the equipment that now makes our lavatory quarters more efficient and cleanly than our habitable rooms, such by-laws are superfluous. Internal sanitary provision and concealed piping are considered efficient by the Americans, who are no less punctilious than we in such matters, and how enormously planning would be simplified by a concession of this sort may be seen in most plans from across the water.

Current Architecture. 91.—Flats, No. 40 Park Lane, London, W.

Frank T. Verity, F.R.I.B.A., Architect.



Mr. Frank T. Verity, who has designed several large blocks of flats in the West End of London, has just completed a further block at the corner of Oxford Street and Park Lane. This is a steel-frame and Portland stone structure, containing twenty-four flats and one self-contained flat, entered from North Row. Further particulars are given on page 764.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Business Premises: Increase of Rent and Mortgage Interest (Restrictions) Act, 1920

By ARCHIBALD SAFFORD

UNLESS further legislation is introduced—and at the time of writing this appears improbable—the sec- on (§ 13) of the Increase of Rent and ortgage Interest (Restrictions) Act, 920, which extended that Act to "pre- ises used for business trade or profes- onal purposes or for the public ser- ce" will expire on June 24. Such xpiry will bring into added prominence he question, What premises are within he Act apart from the provisions of that ection ?

Before the passage of the 1920 Act the ord "dwelling-house" had received in- erpretation in several cases under the ormer Acts. In Epsom Grand Stand ssociation Limited *v.* Clarke and Wife 1919] W.N. 170, for example, it was held hat a public-house of which about seven ooms were used as a private residence ame within that definition. In the course f his judgment in the Court of Appeal, Bankes L. J. clearly explained the view of he Court. "If an agreement," he said, were to let premises as a barn, the enant, even though he lived there, could ot be heard to say they were let as a welling-house. But these premises were et for occupation. The defendants and heir family and servants have resided ontinually there, *and their residence is in ccordance with the agreement of tenancy.*" The italics are mine.) "The house was dwelt in by the defendants, and let to them for that purpose. It is in the fullest sense a dwelling-house, and none the less so because it is also a public-house." The same principles were applied in the subsequent cases of Ellen *v.* Goldstein [1920] W.N. 253 and Callaghan *v.* Bristowe [1920] W.N. 308. In the former of these cases a shop with a living-room above, and in the latter a garage in the upper floor of which the chauffeur lived, were held to be within the term "dwelling-house."

Upon the passage of the 1920 Act the Legislature appears to have had these decisions in mind when it enacted by § 12 (2) (ii) "the application of this Act to any house or part of a house shall not be excluded by reason only that part of the premises is used as a shop or office or for business, trade, or professional purposes." Before the passage of the Act, however, § 13 was added and provided "this Act shall apply to any premises used for business trade or professional purposes, or for the public service as it applies to a dwelling-house, and as though references to 'dwelling-house,' 'house,' and 'dwelling' included references to any such premises," subject to certain modifications in its application to such premises which are not for the moment material.

The effect of that section was considered by the Court in the case of Tompkins *v.* Rogers [1921] 2 K.B. 94, and the Court held that premises used as a lodging-house were within that section, in spite of the fact that they might also be a "dwelling-house." As Salter, J. then said, "§ 13 (1) provides that the Act applies to "any premises used for business trade or professional purposes.' The premises may be a dwelling-house, but if the house is used for business purposes that section applies." The attention of the Court in this case was not directed to a previous decision, Waller and Son, Limited, *v.* Thomas [1921] 1 K.B. 541, in which Lush and McCardie, J.J., had indicated that in their view a public-house which was a "dwelling-house" was not within § 13, even though it was used for business purposes; nor that the Irish Courts had decided in Laird *v.* Graves [1921], 55 Ir. L. T. 55, that § 13 applies only if the premises were used exclusively for business purposes.

The view, however, expressed in Tompkins *v.* Rogers must be taken, it is submitted, to be the true one; but the inquiry lacks interest now in view of the expiry of § 13. It is clear, nevertheless, that the Court in that case did not intend to decide that the lodging-house was not a dwelling-house. It only decided that even though it was a dwelling-house it was within § 13 because it was used for business purposes. Consequently "dwelling-houses" within the meaning attributed in the cases which have been cited and which are now within § 13 will continue to be within the Act even after the expiry of § 13; and the two immediate and obvious effects of such expiry will be that :—

(1) Whereas it is now necessary for a landlord desiring possession of such premises upon the ground that he requires them for himself, to give evidence that he requires them "for business, trade, or professional purposes, or for the public service" (§ 13 (1) (*b*)); after June 24 he will have to give evidence that he requires them "for occupation as a residence for himself, or for any person *bona fide* residing or to reside with him; or for some person in his whole-time employment or in the whole-time employment of some tenant from him" (§ 5 (1) (*d*)).

(2) Whereas he is now entitled, subject to the provisions of § 3, to increase the rent of the premises 35 per cent. (§ 13 (1) (*a*)) above the standard rent; after 24 June he will be entitled only to increase the rent 15 per cent. (§ 2 (1) (*c*)) above the standard rent in the case of houses to which the 1915 and 1919 Acts did not apply, and in the case of houses to which either of those Acts did apply by 5 per cent. from 25 June to 1 July inclusive and 15 per cent. thereafter (§ 2 (1) (*c*)).

The difficulty which immediately presents itself is whether any notice by the landlord to the tenant is required of the decrease of rent? The Act makes no such stipulation, but it might be suggested that in view of the fact that by the

NEW BLOCK OF FLATS AT THE CORNER OF OXFORD STREET AND PARK LANE
FRANK T. VERITY, F.R.I.B.A., ARCHITECT.

expiry of § 13 the 35 per cent. increase becomes unauthorised, the rent automatically reverts to the standard rent, unless a notice increasing the rent as provided by § 2 (1) (*c*) is given. It is submitted, however, that that is not the true view. § 13 (1) (*a*) only amended § 2 (1) (*c*); it is not a separate provision. Consequently, upon the expiry of § 13 (1) (*a*), § 2 (1) (*c*) in its unamended form becomes applicable, and the notice of increase having been valid when given and no requirement being contained in the Act of notice of decrease, the notice of increase remains *pro tanto* effective.

The most unexpected effect of the case of Tompkins *v.* Rogers is, perhaps, that §§ 9 and 10, which deal with the letting of furnished parts of houses, do not apply to houses used as lodging-houses, but the expiry of § 13 will render the lodging-house keeper subject to the provisions of those sections as the legislature clearly intended that he should be.

[It must not, of course, be forgotten in this connexion that if the rent includes payments in respect of board or attendance the Act has no application (§12(2)(*i*)).]

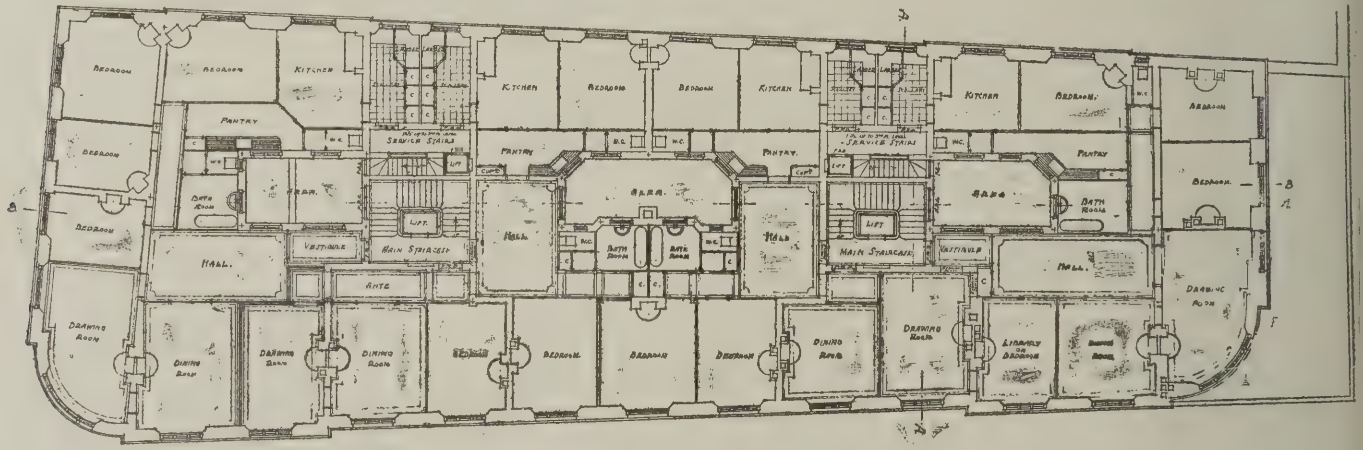
Mortgages on premises which came within § 13, but do not come within the definition of "dwelling-house," will, of course, cease to be subject to the restrictions imposed by the Act. By virtue of § 19 (1) "the expiration of this Act or any part thereof shall not render recoverable by a landlord any rent, interest, or other sum which during the continuance thereof was irrecoverable, or affect the right of a tenant to recover any sum which during the continuance thereof was under this Act recoverable by him." Curiously, the word "mortgagee" is omitted after "landlord," and "mortgagor" after "tenant"; yet the legislature must have had in mind the position of mortgagors and mortgagees, for the word "interest" which occurs after "rent" is inapplicable to the relationship of landlord and tenant. Some embarrassment may be caused to mortgagors in certain cases by this omission.

New Residential Flats in Park Lane

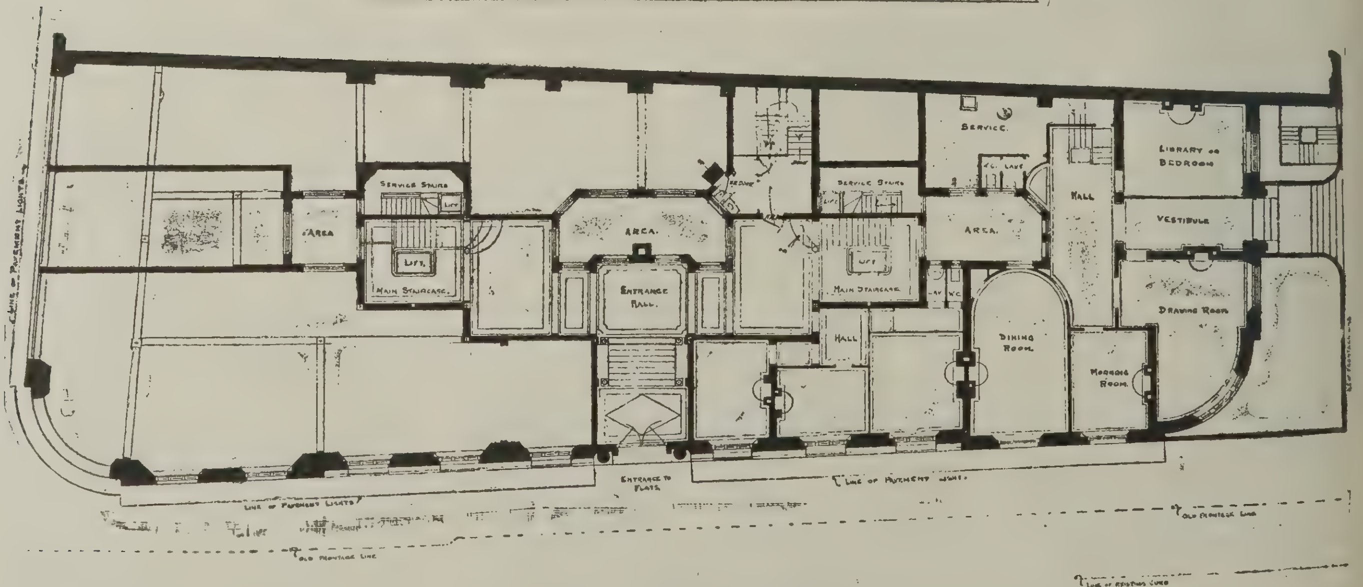
This fine new block of residential flats —No. 40 Park Lane, London—has been erected from the designs of Mr. Frank T. Verity, F.R.I.B.A. It is a steel-framed structure, seven stories high, with a Portland stone exterior, and accommodation is provided for twenty-five flats, one of which is self-contained and entered from North Row, and three shops on the Oxford Street elevation.

The entrance hall has been executed in stucco and paved in marble. Two passenger and two service lifts, low pressure central heating, and a domestic hot-water supply are installed, and steel casements are provided in the area only. The roof, constructed of cement, has been asphalted on the top and slated on the sides. Open fireplaces, which may be adapted for gas, coal, or electricity, according to the desires of the tenant, are provided in all the flats.

The general contractors were Messrs. W. H. Lorden and Son, the following subcontractors also being associated with the work: Bath and Portland Stone Firms (stone); Medway Lift Company (lifts); Jones and Willis (lift enclosures); H. W. Cashmore (iron grilles); Decorative Tiling and Wood Block Company (flooring); Chas. Walker & Co. (marble); Shanks & Co. (sanitary fittings); Arthur Searle & Co. (plaster); W. H. Lorden and Son (joinery); Dorman Long & Co. (steel); Stegman & Co. (electric lighting); and Thomas Faldo & Co. (asphalt).



PLAN OF 1st, 2nd, 3rd, 4th, 5th & 6th FLOORS

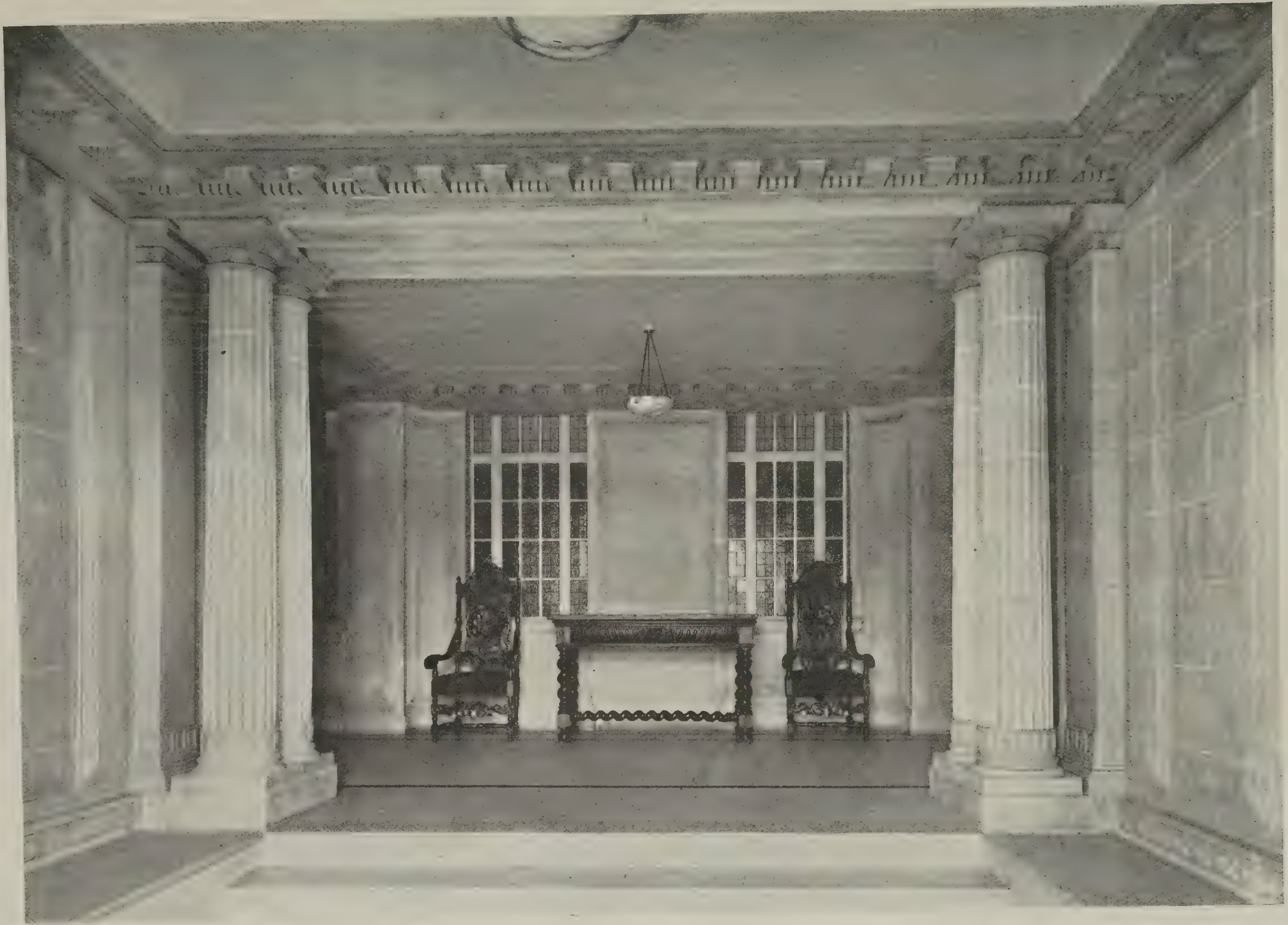


PLAN AT UPPER GROUND FLOOR LEVEL

PLANS OF FLATS AT THE CORNER OF OXFORD STREET AND PARK LANE, LONDON, W.
FRANK T. VERITY, F.R.I.B.A., ARCHITECT.

Current Architecture. 92.—Flats, No. 40 Park Lane, London, W. View in Entrance Hall

Frank T. Verity, F.R.I.B.A., Architect



This view shows the principal entrance hall to the fine new block of flats recently completed near the Marble Arch from the designs of Mr. Frank T. Verity. The architectural features are of stucco, the floor being paved with marble.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Book Notice

nning and Equipment of Laboratories.

ne of the sternest lessons taught us the Great War was that we must make te to assign to science-teaching its place in the curricula of our schools colleges. Our comparative neglect of times past was like to have cost us r, for the war was pre-eminently a of relative competency in the me- nical and chemical sciences. The idity with which, in spite of numeri- y inferior resources and equipment, were able to overtake the enemy and t him decisively at his own game was evelation of latent power; but the uousness of the struggle for suprem- , and the dire peril in which the ntry had been placed by neglecting il the last moment to develop the itude for science that then became so inly manifest, awakened the conscious- s of the nation to the peril in which s supineness had placed us.

Nor was it only material needs that re brought home to us. If our legis- ors, civil officials, and military and val officers had had the run of labora- ies in their schools, primary or second- y, they would have acquired, con- ously or not, a more scientific habit of ought that would have averted many catastrophe, and would have helped odigiously towards shortening the war. That we may be better prepared to ld our own in science, whether in war- re or in commercial competition, it is cessary to take up the study of science ry seriously; and the first step is to tablish properly equipped laboratories the schools and colleges. This is a atter in which architects are being consulted very freely, and too many of them are not fully prepared to give sound advice on it. Mr. Alan E. Munby's work on "Laboratories, their Planning and Fittings," should, therefore, be widely and warmly welcomed by architects to whom this class of work is attractive—for some it is even fascinating—for it gives in full and practical detail, invaluable advice of exactly the kind for which elsewhere they might seek in vain. It gives in detail (in separate chapters) the respective requirements for chemistry, physics, biology, and geology; and among the copious illustrations (representing the needs of the small school as well as those for institutions where advanced work is to be done) are included plans, sections, and photographic views that, rightly studied and comprehended, will put the architect, the builder, and the artificer in full possession of all the salient factors of laboratory construction. Mr. Munby is to be thanked for a timely and altogether admirable contribution to a special department of architecture in which the collected information has been hitherto scanty. Sir Arthur Shipley, F.R.S., provides an historical introduction that is at once valuable and delightful.

Laboratories, their Planning and Fittings. By Alan E. Munby, M.A., F.R.I.B.A. With an Historical Introduction by Sir Arthur E. Shipley, G.B.E., Sc.D., F.R.S. London: G. Bell & Sons, Ltd. Price 25/- net.

War-time Fire-Prevention

The British Fire Prevention Committee, which was founded in 1897 to promote protection of life and property from fire by the adoption of preventive measures, has just issued a Red Book, "Fire Protection During The War." On the outbreak of war the Committee's offer of scientific assistance was accepted by Government Departments, Colonial Governments, Police Forces, and the British Red Cross. Some Departments, however, did not at once realize the necessity of fire prevention, with the result that camps, as well as munitions, food, forage, and other commodities were destroyed. None the less the activities of the British Fire Prevention Committee were of very great benefit to both the Civil and Military sides of the Government, to the Overseas Dominions, to the Allied Governments, and to the British Nation generally.

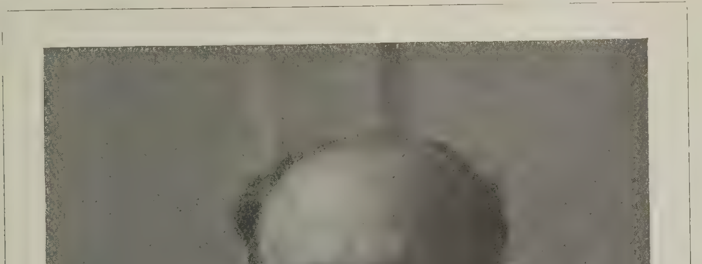
At the request of the War Office the Committee surveyed various types of camps, about thirty-five camps in different commands being inspected, and, as a result, fresh regulations for fire prevention were issued, practically the whole of the Committee's recommendations being adopted with great saving to the nation. Altogether over 2,500 surveys were made, free of charge, including hospitals, some containing more than 350,000 beds, depots, warehouses, workrooms, factories, camps, barracks garages, etc.

Warnings for the prevention of fire in thirty kinds of establishments were specially drawn up, and over 550,000 copies were issued gratis.

At the Committee's large and thoroughly equipped Testing Station eighty important tests were undertaken at the instigation of the Government Research Department during 1917, 1918, and 1919. The Government made a grant to cover the expenses of these tests, but the members of the Committee who supervised the carrying out of each test did so in an honorary capacity. The organization and administration of the Committee's War-work were carried out by a sub-Committee, of which the late Earl of Londesborough was Chairman, and the members were Messrs. the late Edwin O. Sachs, F.R.S. Ed.; Percy Collins, J.P., F.S.S.; T. C. Gilson, F.C.I.I.; Ellis Marsland, F.S.A.; Oswald C. Wylson, F.R.I.B.A.; and Major E. C. P. Monson, F.R.I.B.A.

The Royal Gold Medal

On Monday last at the R.I.B.A. the Royal Gold Medal was presented to Sir Edwin Lutyens, R.A., the designer of the Cenotaph, and one of the two architects of the new Delhi. Prior to the meeting the Council entertained the following guests to dinner: Sir Edwin Lutyens, R.A., and Lady Emily Lutyens; Sir Charles and Lady Ruthen; the President of the Royal Academy and Lady Webb; Sir William and Lady Emerson; Mr. Thomas E. Collcutt; Sir Ernest George, R.A.; Mr. Leonard A. and Mrs. Stokes; Monsieur G. L. Girault; Monsieur H. P. Nénot; Sir Thomas G. Jackson, R.A.; Sir Arthur J. Evans; Mr. Arthur J. Balfour, O.M.; the Earl and Countess Curzon of Kedleston; Viscount and Lady Esher; Viscount and Viscountess Harcourt; Mr. Thomas Hardy, O.M.; Viscount and Viscountess Milner; the Earl and Countess of Plymouth; the Earl and Countess of Crawford and Balcarres; Sir Arthur Cope, R.A., and Lady Cope; Sir Robert S. Lorimer; Mr. Walter Peacock; the Earl and Countess of Lytton; the Hon. Neville Lytton; the Earl of Sandwich; Lord Midleton; the Adjutant-General; Lord Riddell, and Mr. U. F. Wintour.



SIR EDWIN L. LUTYENS, R.A., ROYAL GOLD MEDALLIST, 1921.

Architects' Fees for Abandoned Housing Worl

As announced in our last issue, the Ministry of Health has issued a General Housing Memorandum, No. 52, concerning the fees payable to architects in private practice for the preparation of plans which are abandoned after approval by the Minister of Health. The terms and conditions set out in the memorandum have been agreed by the R.I.B.A. and the Society of Architects, and will apply in every case except where an agreement providing for a specific payment for abandoned work has been made between the local authority and the architect prior to the date of the memorandum, June 8, 1921. If the local authority have made any such agreement, the terms of the agreement should be notified to the Minister. The modification of plans (not involving abandonment of the design) to comply with the requirements of the Minister is covered by the ordinary payment under General Housing Memoranda 4 and 31, and is not to be regarded as abandoned work for the purpose of assessing fees. In view of doubts expressed as to the method of calculating the fees payable under General Housing Memoranda Nos. 4 and 31, it has been thought desirable to include in the present General Housing Memorandum a definition of the term "scheme" as used in the memoranda. The terms and conditions of the memorandum are as follows :—

I.—Lay-out Plans.

For preparation of lay-out plans the full fees according to the scale under the heading "A :—Preparation of Lay-out Plans" laid down in General Housing Memorandum No. 31 shall be payable.

II.—Roads and Sewers.

In cases where the employment of the architect is discontinued on the abandonment of the lay-out plans, the fees payable for the abandoned work shall be as follows :—

(i) If only drawings and specifications have been prepared, one-third of the scale fees set out under the heading "B.—Roads and Sewers" in General Housing Memorandum No. 31.

(ii) If all the work necessary for the purpose of obtaining tenders, including the preparation of quantities, has been done, two-thirds of the scale fees set out under heading "B.—Roads and Sewers" in General Housing Memorandum No. 31.

In all cases of partially abandoned schemes the fees payable for the abandoned work shall be three-quarters of the fees indicated in (i) and (ii) of the preceding paragraph respectively, according to the circumstances of the particular case.

III.—House Plans.

(*a*) The references to "scale fees" in the paragraphs which follow mean the scale under the heading "C.—Cottages and Flats" in General Housing Memorandu No. 31, namely :—

5 per cent. upon twelve cottages flats.

2½ per cent. upon a further sixt cottages or flats.

1½ per cent, upon a further 17 cottages or flats.

(*b*) For the purpose of calculating th fees hereinafter set forth, the abandone work shall be deemed to comprise number of houses equivalent to the num ber of separate designs which have bee prepared. Such ordinary variations a are necessary to avoid monotony i appearance or mere change of aspect c larders or the like shall not be regarde as constituting separate designs.

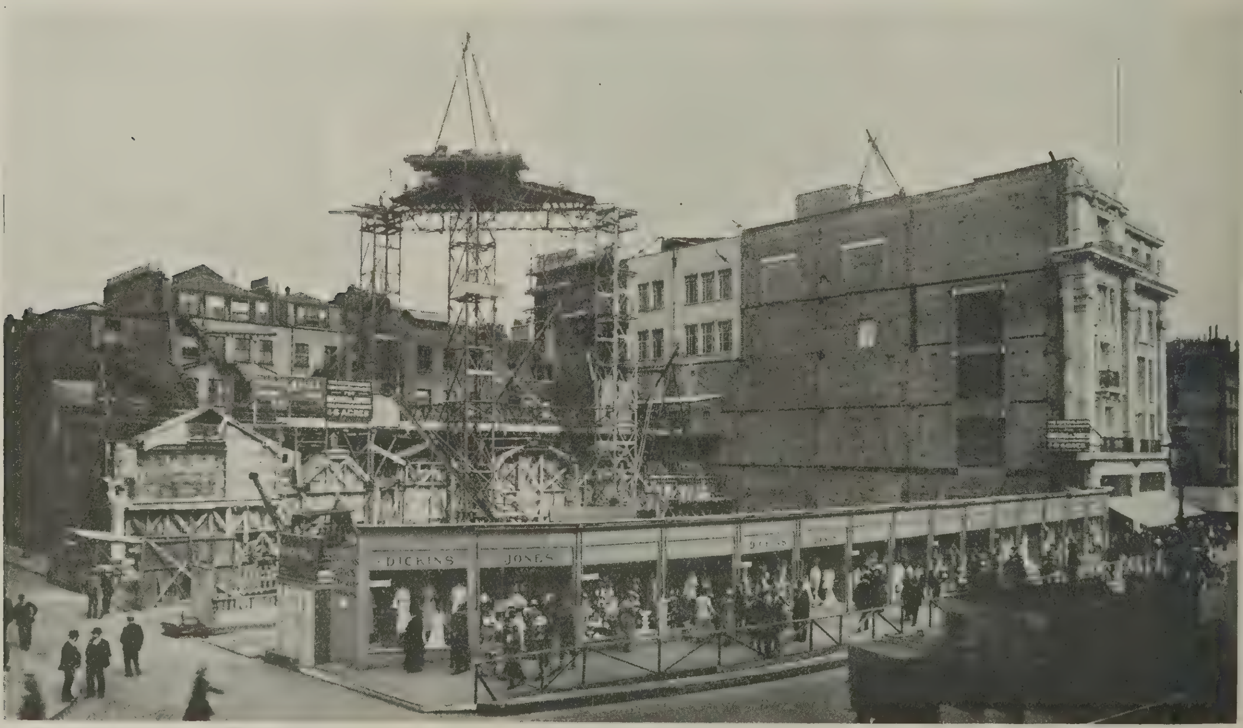
(*c*) The fees shall be calculated on th amount of the lowest tender received, o on the estimated cost, or on the maxi mum amounts specified in page 3 o General Housing Memorandum No. 31 whichever may be the least.

In cases where the employment of th architect is discontinued on the abandon ment of the plans, the fees payable fo the abandoned work shall be as follows :—

(i) If only sketch plans have beer prepared, one-half the scale fees under heading C in Memoran dum No. 31, calculated in ac cordance with paragraphs (*b* and (*c*) above.

(ii) If all the work necessary for th purpose of obtaining tenders

The Dickins & Jones Building, Regent Street : Progress Photograph No. 4



Higgs and Hill, Ltd., Builders.

This photograph (published by courteous permission of the architects, Messrs. Henry Tanner) shows the condition of the work at May 31. Earlier progress photographs were given in our issues for April 13 and 20 and May 18. The temporary showcases are completed, the basement excavations executed, concrete foundations put in for half the stanchions, and the staging for a 10-ton crane erected.

SIR HOWELL J. WILLIAMS.

including the preparation of detail drawings, has been done, the full scale fees, under heading C in Memorandum No. 31, calculated in accordance with paragraphs (*b*) and (*c*) above.

In cases where the architect is retained
prepare fresh plans, the fees payable
r the abandoned plans shall be one-half
the fees indicated in (i) and (ii) of the
eceding paragraph respectively, ac-
rding to the circumstances of the par-
cular case.

In all cases of partially abandoned
hemes, fees in accordance with the pre-
ding paragraph 2 will be payable for
e abandoned work. For the purpose of
lculating such fees the abandoned work
all be deemed to comprise a number of
ouses euqivalent to the number of
parate designs approved for inclusion
the lay-outs of the portions of the
heme which are abandoned, although
me or all of such designs may have
een utilized for the houses erected.

The foregoing terms and conditions will
ot apply in any case where an agreement
roviding specifically for payment for
bandoned work has been made between
e local authority and the architect
rior to the date of this memorandum.

General.

The term "scheme" as used in this
Iemorandum and in General Housing
Iemorandum No. 4 and General Housing
Iemorandum No. 31 means the whole of
he assisted scheme of the local authority,
nd includes the whole of the houses
rovided by the local authority, whether
n one or more sites.

Sir Howell J. Williams

Sir Howell J. Williams, the well-known building contractor, who has just received the honour of knighthood, began business as a builder in the City of London in 1881. The firm of Howell J. Williams, Ltd., has been responsible for the erection of a large number of important buildings, particularly in the City, and is at the moment engaged on a block of buildings to the design of Sir Edwin L. Lutyens, R.A., F.R.I.B.A., for the Anglo-Persian and Burmah Oil Co., Ltd., in Finsbury Circus.

Sir Howell Williams has been for twenty-five years a member of the L.C.C., is at present Deputy Chairman, and represented the L.C.C. upon the Territorial Force for some years. He is a Deputy-Lieutenant and J.P. for the County of London, and has served the office of High Sheriff for the County of Merioneth. During the war he was largely responsible for the raising of the London Welsh Batts. (15th and 16th Royal Welsh Fusiliers), also the Islington Battalions.

He has served on the Council of the Master Builders' Association for some years, and is a Past President of the Builders' Clerks Benevolent Institution.

His son, Capt. Ivor Williams, was killed in France, and his eldest son, Capt. Trevor Williams, was seriously wounded.

Very cordial congratulations are offered to Sir Howell Williams on the honour which has been bestowed upon him. In the recent Birthday Honours the building industry was certainly marked out for special distinction; and there could be no more worthy upholders of the dignity of knighthood than Sir Howell Williams and Sir Frederick Rice.

Presentation to Mr. John W. Simpson

Those who have been associated with Mr. John W. Simpson on the Council of the R.I.B.A. during the past two years, to the number of about fifty, have given expression to their appreciation of his services to the Institute, and to the profession generally, by presenting him with a signed address beautifully written on vellum by Mr. Graily Hewitt, together with an antique bracket clock decorated in lacquer.

Mr. Waterhouse, who had been asked to represent the signatories, said, addressing the President, that he thought the occasion might be compared to a bankrupt's meeting with his creditors, but with the parts reversed. There was in this case but one creditor and a room full of debtors who found no way out of their embarrassment but the presentation of a framed and illuminated I.O.U. Mr. Simpson's colleagues during his two years of office were all in debt to him, and they had tried to express, not their whole debt indeed, but their inability to repay, by the parchment now presented, and by the gift which accompanied it.

He might, said Mr. Waterhouse, enlarge at length on the natural and acquired abilities which Mr. Simpson had so successfully exercised in his position as President, but he was concerned now not with the public and more conspicuous aspects of Mr. Simpson's success, but rather with those that had made so pleasant the intimate relationship of his colleagues with himself. Among them he might at least recall his fidelity to the cause of architecture and architects, his genial power as ruler of the Council, his innate tact in varied directions, and, finally, a quality of friendship which could only be acknowledged—as he then did most heartily acknowledge it—by a handshake.

Mr. Simpson spoke with a great deal of feeling in reply, but said that at the moment it was quite beyond him to express adequately either his appreciation of the gift or the value that he placed on the friendship and goodwill of those who had given it. Nothing that had happened during his term of office had given him so much pleasure, or had enabled him to realize as this had done the strength of the good feeling that he had always been conscious of.

R.I.B.A. Council Meeting

At the last meeting of the Council of the R.I.B.A. the following business was transacted :—

The High Cost of Building.—The Council received and adopted a report from the Building Industries Consultative Board on the subject of the high cost of building, and ordered it to be printed in the JOURNAL.

Constitutions of Allied Societies.—The Council gave their sanction to certain amendments in the constitutions of the following Allied Societies: The New South Wales Institute of Architects; The Birmingham Architectural Association.

Hereford War Memorial Competition.—On the recommendation of the Competitions Committee the Council sanctioned the issue of the veto.

Law Reports

Action Against Building Co.

Harris v. Central London Building Co., Ltd.

June 9. Court of Appeal.
Before Lord Justices Bankes, Scrutton, and Atkin.

In this case the plaintiff appealed from the judgment of Mr. Justice Rowlatt, dismissing the action brought by the plaintiff to recover damages for alleged nuisance and trespass committed by the defendants.

Mr. Compston, K.C., in support of the appeal, said the defendants were the contractors for the erection of a large cinema in the Pentonville Road, King's Cross, for the lessee of the land from the Metropolitan Railway Co., who were the ground landlords. The main entrance to the cinema was at the corner of a street abutting on the Pentonville Road. The plaintiff's shop was 277 Pentonville Road, where he carried on business in sweets, toys, and fancy goods. The plaintiff in September 1919 acquired a lease of his premises for 21 years from March 25, 1919, at a rental of £175 per annum, going up to £225. The lessors were the Metropolitan Railway Co. The lease reserved inter alia the right of the lessor to make excavations and do such work as might be in the opinion of the company's engineer necessary for the repair of the railway, retaining walls, etc., and such work as might be situate below or underneath the demised premises. What the plaintiff complained of was something done outside the premises. The erection of the cinema was begun in October, 1914, and went on by slow stages until June 1917, when the work was stopped by the order of the Minister of Munitions, acting under the powers conferred upon him by the Defence of the Realm Act. The scaffolding was left standing for some time, but on the plaintiff complaining about it it was removed. The cinema was built above the plaintiff's shop and on each side of it. It was built of reinforced concrete. In June 1919 the building of the cinema was resumed, and the defendant obtained a licence from the public authority to erect scaffolding and hoarding on the public footway. Instead of the scaffolding extending 3 ft. on the footway as the licence permitted, it extended 6 ft. over the pavement. The plaintiff had failed on that point because the local authority had satisfied the judge that there had been no infringement of the licence by the defendants. He (counsel) would not trouble any more about that. What he did complain of was that when the work was resumed scaffolding consisting of upright poles put into tubs, with cross tiers, were placed in front of the plaintiff's shop.

Lord Justice Scrutton: The street is not your client's property.—Mr. Compston agreed, but said the result of the erection of the scaffolding was to so seriously affect the light of the plaintiff's premises that artificial light had to be used in July and August.

Lord Justice Scrutton: The powers of the local authority over public roads extend from and along the road right up to the heavens.

Mr. Compston: Yes, but they cannot commit a trespass upon my premises. My case is that the defendants trespassed upon my property because they have erected scaffolding right across my windows, through which I am entitled to have every ray of light naturally coming through them.

Continuing, counsel said that Mr. Justice Rowlatt had held that in what the defendants had done they had not done unreasonably. He (counsel) quarrelled with that, and said there were frequent falls of cement, tricklings of water, dust, and brickbats, and that there was not sufficient care to prevent that by a proper screen being put up. The screen which was put up was almost vertical. As a result of the débris which fell the plaintiff had to have his windows cleaned every day, and the dust which settled on the sweets, toys, and fancy goods rendered them practically unsaleable. Mr. Justice Rowlatt had held that if the plaintiff was entitled to damages for alleged trespass he was entitled to £15 damages. He (counsel) asked the court now to say that the judge was wrong in dismissing the action, and that his assessment of damages upon the evidence before him was totally inadequate.

Without calling upon counsel for the respondent, their lordships held they saw no reason for interfering with the judgment of Mr. Justice Rowlatt, and dismissed the appeal, with costs.

Surveyor's Claim Against an Architect

Chant v. Ospalak.

June 9. Official Referees Court.
Before Mr. Pollock.

In this action Mr. Wyndham Joseph Chant, a surveyor, of Winchenden Road, Fulham, claimed from Mr. Alfred Ospalak, an architect, of King's Buildings, Smith Square, Westminster, the sum of £180 11s. 10d. as balance of account for surveyor's fees, etc.

Mr. Moyses appeared for the plaintiff, and Mr. Mould for the defendant.

The plaintiff's case was that it was formally agreed between himself and the defendant that he should prepare quantities for buildings which it was proposed to erect in Catherine Street and Buckingham Gate, and that such buildings were not in fact built. The plaintiff, however, prepared the quantities, and had only been paid £10 on account of his charges.

The defence as to some of the items of claim was that as the buildings had not been put up the sum paid on account of the plaintiff's work was sufficient. As to certain other items in the charge the defendant said that in or about the month of July 1920 the plaintiff and the defendant verbally agreed that the former should prepare quantities for an inclusive fee of £20, and that on July 19 the defendant paid the plaintiff that amount in full discharge and settlement of all claims in respect of that particular work. In other cases the defendant said plaintiff did not prepare the quantities, but he admitted that he (plaintiff) had rendered some small assistance, but that assistance he said was included in the £20 which he had paid in accordance with a verbal agreement between them. Defendant further alleged that the work said to have been done was incomplete and so negligently executed as to be worthless. He, however, paid £56 into court with a denial of liability.

The Official Referee, in giving judgment, said that there was absolute contradiction between the parties as to what had taken place at the interviews, an hence it became necessary for him to se whether there was anything in the evidenc which would determine him as to whic was speaking the truth. The circumstances of the case led him to believe tha Mr. Chant was making an excessiv claim, and that he was taking an exagge ated view of Mr. Ospalak's position. H was simply an architect, and had nothin to do with the finances of the work. conversation took place between th parties, and according to Mr. Chant th agreement he made with Mr. Ospalak wa that he was to receive £20 and be th surveyor for the work afterwards. H said that he mentioned that sum o the supposition that he was going t have the surveying afterwards. When h was paid the £20 agreed upon he gave receipt in these terms: "Received th sum of £20 for supplying bills of quantitie re Smith Square in accordance wit agreement." That was clearly intende to be a receipt for the amount agree upon, and it did not say a word abou the surveying, and nothing was said abou it until the claim was made. He (th Referee) had no hesitation in saying tha what defendant had said in regard to th transaction was true. That did not however, dispose of the whole matter If there was any real foundation for th story told by Mr. Chant he would hav expected to find something about it i his claim; but there was nothing in th claim about any promise that he shoul be surveyor. The charges in som instances were excessive, and he foun that the sum which plaintiff ought t receive was £26 16s. The plaintiff woul have the costs up to date of the paymen into Court.

Judgment was entered accordingly with direction that the money paid i should remain until the costs were paid.

Coming Events

June 24 and 25.

Royal Sanitary Institute. Congress at Folkestone.

The R.I.B.A. invite members of all the Allied Societies and of the Architectural Association to take part in the conference to be held at Liverpool on June 24 and 25. The Lord Mayor of Liverpool will hold a reception of members in the Town Hall at 10 a.m. on Friday, June 24, 1921. Members intending to be present are requested to send their names to the Secretary, R.I.B.A., 9 Conduit Street, W., as early as possible.

Tuesday, June 28.

R.I.B.A. Reception and Garden Party to be held by the President and Council at the Zoological Gardens.

Wednesday, June 29.

Cricket match between the R.I.B.A. and the Architectural Association on the latter's ground at Elstree. Play will begin at 11 a.m. sharp, and stumps will be drawn at 6.30 p.m.

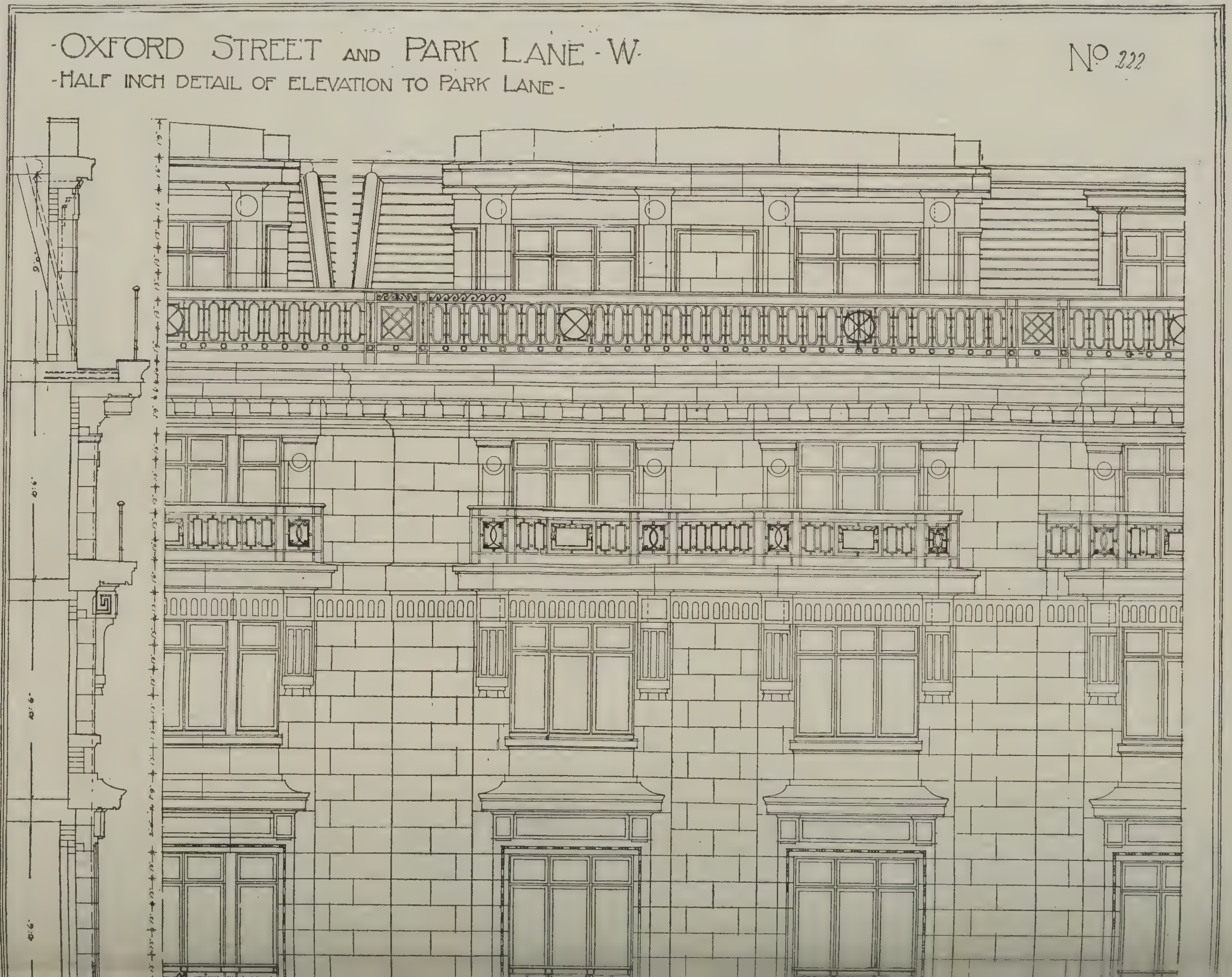
June 30 and July 1.

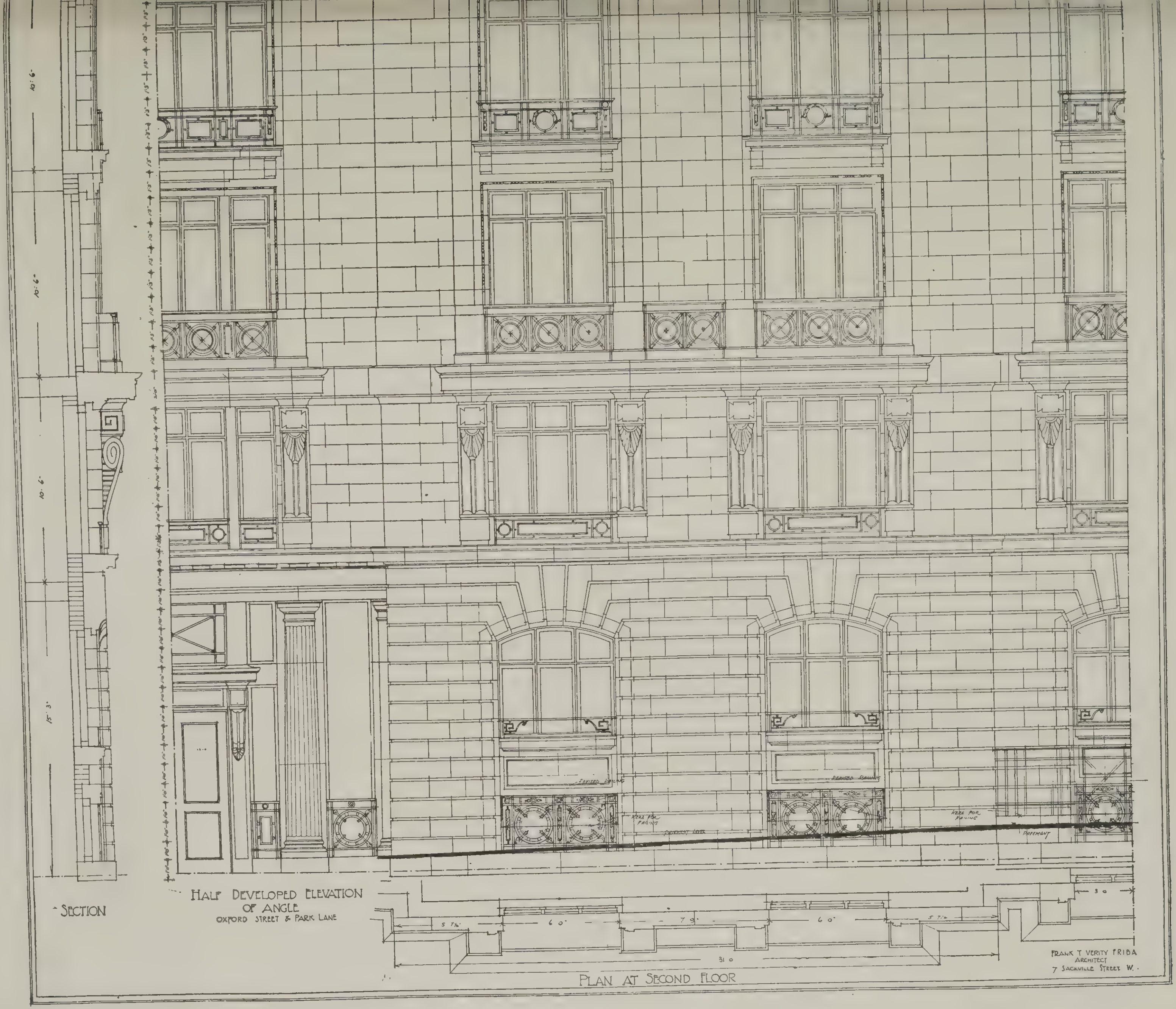
Institution of Mechanical Engineers, London. Summer meeting at the Institution, Storey's Gate, St. James's Park, S.W.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Architects' Working Drawings. 38.—Flats at the corner of Oxford Street and Park Lane, London, W.: Detail of Principal Elevation

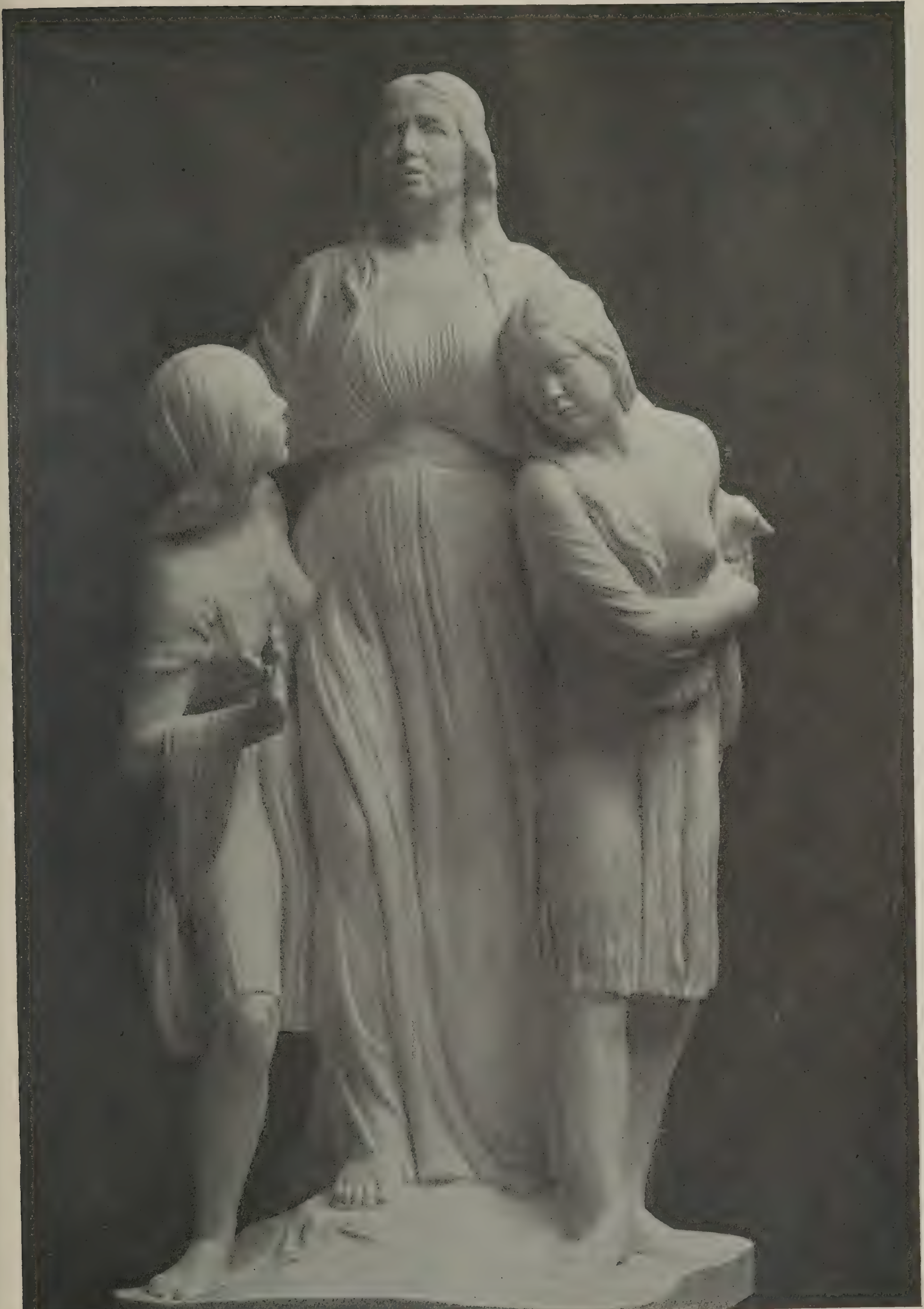
Frank T. Verity, F.R.I.B.A., Architect


-OXFORD STREET AND PARK LANE - W-
-HALF INCH DETAIL OF ELEVATION TO PARK LANE-
No 222



In his new block of flats near the Marble Arch, Mr. Frank T. Verity has produced a building that in the dignity and restraint of its elevational treatment is eminently in keeping with the best architectural traditions of the West End. Some notes on the flats, together with plans and photographic views, are given elsewhere in this issue.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



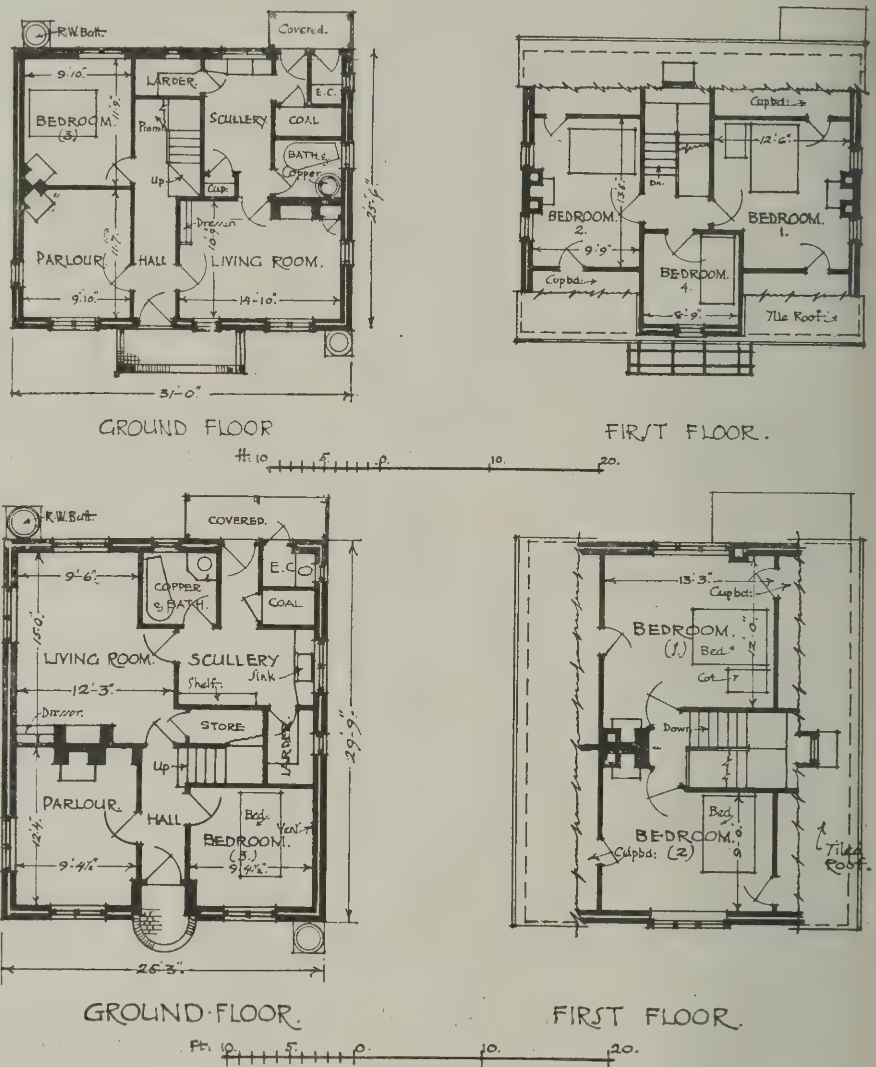
BOADICEA: HISTORICAL GROUP IN THE CITY HALL, CARDIFF
THE LATE PROFESSOR J. HAVARD THOMAS, R.W.A., SCULPTOR.

A West Sussex Rural Housing Scheme

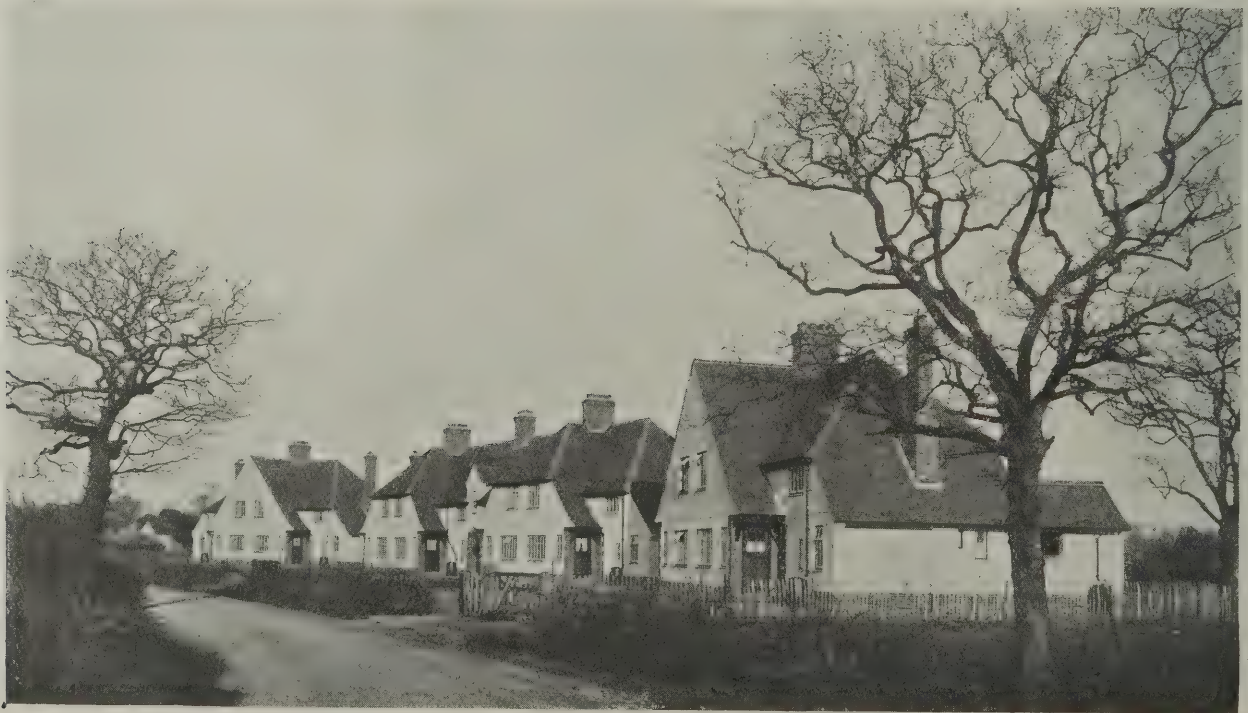
EVERY one who knows Sussex knows the beautiful district which lies between Arundel's Towers and Chichester's Spire, between the Downs above Goodwood and the sea. Every one does not know, however, that the whole of this county is administered as one district by the Westhampnett Rural District Council, which takes its name from one of the thirty-six parishes within the area.

We illustrate this week a series of groups of cottages erected during the past year, or now being erected, in different villages throughout this district by the Westhampnett Council as part of their extensive housing scheme. The shortage of houses in the district was a recognized fact even before the war, for in 1913 the Council erected six houses in the village of North Bersted. Upon the introduction of the present housing scheme a schedule setting forth the requirements of every parish was at once prepared, resulting in a scheme for approximately 300 houses being put forward and subsequently approved by the Ministry of Health.

In 1919 the Council appointed Mr. John Dovaston, A.R.I.B.A., M.C.I., as their architect, and after some months of preliminary work the first bricks were laid early in November of that year at Walberton Green, where an interesting group of ten houses now stands. The complete scheme here is for twenty-four houses on a site with a pleasingly irregular frontage and an area of four acres, six houses to the acre being the order throughout the district. Of the ten houses now erected eight form a complete group, consisting of a central block of four, flanked by a pair on either side, while the remaining pair are placed at some distance away, leaving an intervening space upon which a crescent of three pairs will be erected



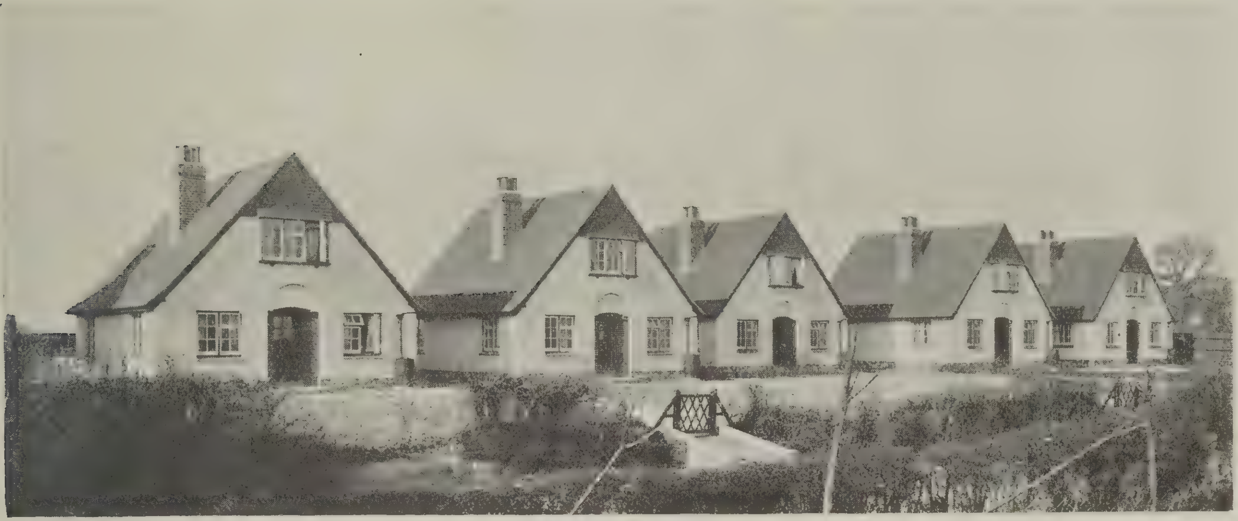
SOME TYPICAL PLANS



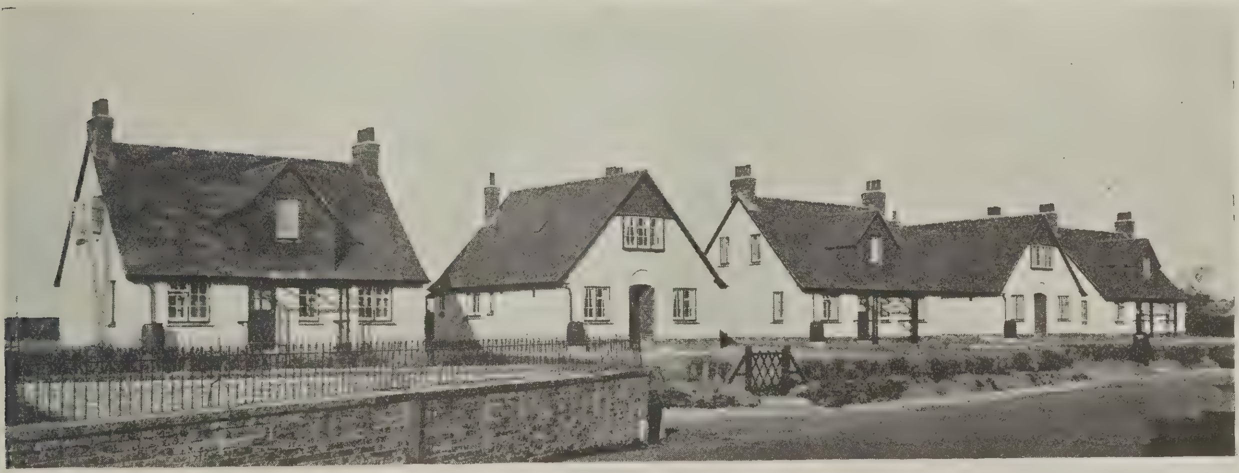
WESTHAMPNETT R.D.C. HOUSING SCHEME: GROUP OF HOUSES AT WALBERTON
J. DOVASTON, A.R.I.B.A., M.C.I., ARCHITECT

Modern Domestic Architecture. 27.—Groups of Houses in the Westhampnett R.D.C.'s Housing Scheme, Sussex

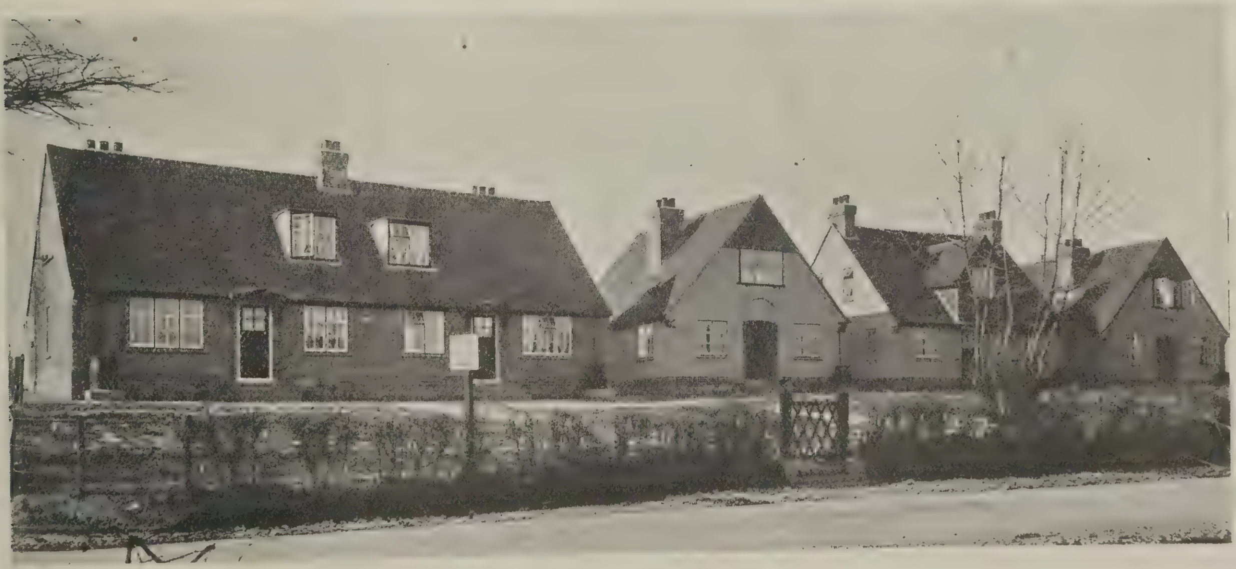
J. Dovaston, A.R.I.B.A., M.C.I., Architect



AT BERSTED.



AT FELPHAM



AT HUNSTON.

The above groups of cottages have been erected in villages throughout the large district which is administered by the Westhampnett Rural District Council, Sussex. An article on the work, which has been carried out under the direction of Mr. John Dovaston, appears on the opposite page.

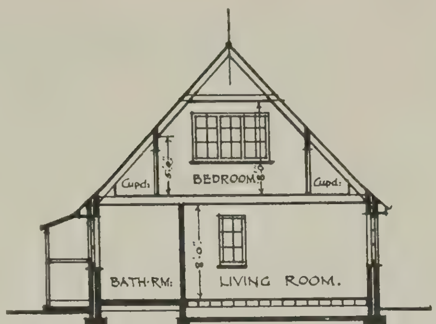
THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

At a later date when the urgent requirements of other villages have been met.

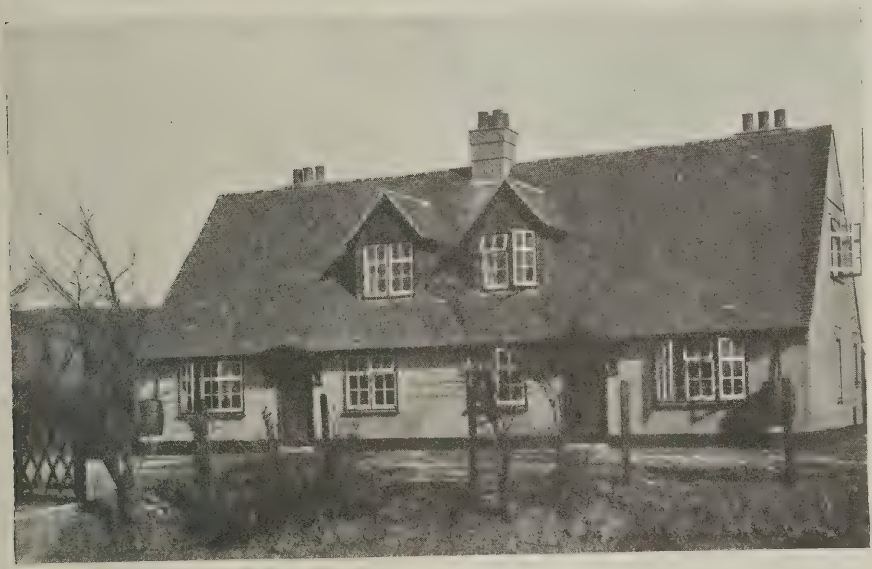
Each of these houses has a parlour in addition to a large living-room and a scullery, and ample storage space is provided. Four houses have four bedrooms, while the remainder have three each. The contract was given to a local builder employing local labour solely, the materials being brick rough-cast with red-brick plinth, dressings, and chimneys, a sand-faced tile being used on the roofs. The cost of the ten houses, including everything but the land, was approximately £8,400.

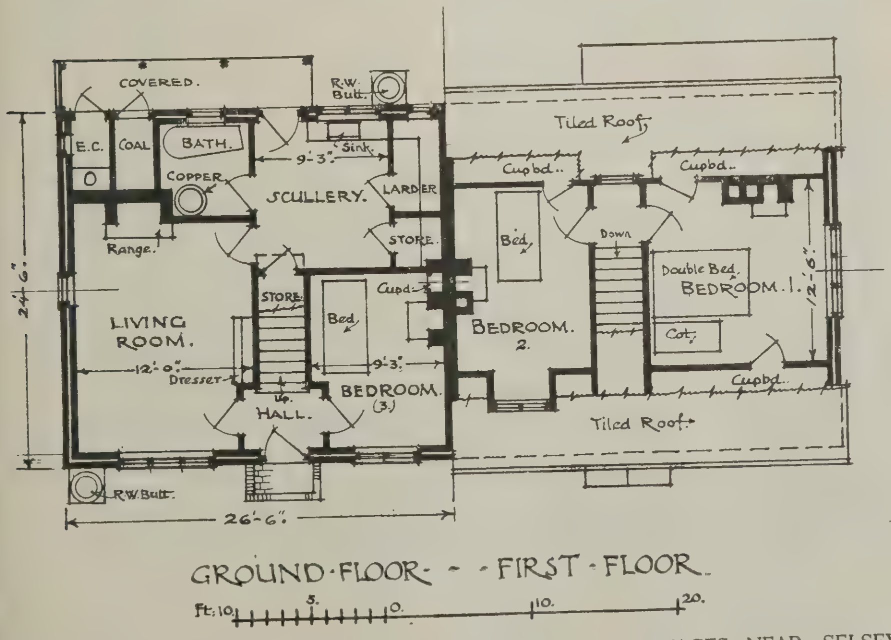
Being faced in the early part of the year with a continuing rise in the price of materials and labour rates, the Housing Committee of the Council considered it necessary that an attempt should be made to find a more economical form of building. As it was keenly felt by all concerned that traditional materials should be used, the only reduction possible appeared to be by the lowering of the cubic contents of the houses. With this end in view the architect was asked to see what could be achieved with bungalow houses, but it was at once apparent that if tiles were used so much cube was wasted in the roof as to render the idea very uneconomical.

From this suggestion grew what has turned out to be a very successful type of house. The architect calls them "semi-bungalows." One bedroom is arranged on the ground floor, which gives a large ground area, and practically the whole of the roof space is taken up by two more bedrooms. Where the houses are detached the upper bedrooms are lighted by means of windows in the gable ends, and in the case of the pairs, by one window in the gable end and one dormer. These bedrooms are reached by a stair more or less in the centre of the house, with one bedroom door on each side of the first-floor landing. Passage-ways are practically eliminated. Mr. Dovaston has now planned five types of houses based on this principle, giving every accommodation from living-room and two bedrooms to parlour, living-room, etc., and four bedrooms, some being detached and some in pairs. The eaves in all cases are at ground-floor window-head level, that is, one foot below the ground-floor ceiling. It has been found that the local builders favour this form of construction owing to the fact that it needs the minimum of scaffolding and plant, and at the same time enables the building to be very quickly covered in.



CROSS·SECTION.





WESTHAMPNETT R.D.C. HOUSING SCHEME: PAIR OF COTTAGES NEAR SELSEY. J. DOVASTON, A.R.I.B.A., M.C.I., ARCHITECT.

During last year contracts were entered into for ten schemes, comprising sixty-two houses of this semi-bungalow type, and the majority of them are now complete, the average cost, including everything but the land, being approximately £840 per house. The illustrations show the appearance of the houses and the pleasing variety that has been obtained by intermixing the different types. We also reproduce working drawings of certain of the types, a study of which will demonstrate their compactness and absence of waste space. A feature is the combined "wash-house bathroom," which is arranged in each case. No hot-water system is fitted, but a draw-off tap from the copper discharges into the bath, while a hinged flap is fitted over the wide end of the bath to rest the wash-tub on, enabling the clothes to be easily rinsed in the bath after washing. On the first floor the eaves space makes most useful cupboards.

Some of the groups have natural settings, which add very much to their interest. In the village of Eastergate a scheme is now practically complete where a belt of trees screens the eighteen houses from a dusty main road. Only five gates to the gardens have been arranged, but three of these have a piece of open fencing on each side which sufficiently opens out the scheme to the road without over-exposing it. From these gates a path leads along under the trees with branch paths off it leading up to the individual houses. At Barnham a row of pollarded poplars gives a setting to a group of three houses set in the form of a bow.

At Hunston a natural rise in the ground sets the houses well up above the road. Unfortunately, in this case the number of houses to be built at once was altered from ten to five after the job was in hand, so that the group has lost its balance somewhat, the pair at the south end not having the balancing pair at the north end. The notice, "Beware of the Trains," refers to the wonderful "Hundred of Manhood and Selsey Tramway," surely one of the most out-of-date railways in the kingdom, whose track crosses the road just beyond the site.

Latest List of New Inventions

Latest Patent Applications.

14528.—Allison, R. M.—Buildings. May 25.

14366.—Cupis, F.—Transportable ferro-concrete house, etc. May 23.

14304.—Jones, D. Palmer.—Scaffolding. May 23.

14718.—Lee, J. W.—Apparatus for moulding building-blocks. May 27.

14826.—Lee, J. W.—Walls, etc., and blocks therefore. May 28.

15084.—Anke, A.—Hollow building blocks. May 31.

15157.—Clifton-Ewart Construction Co., Ltd.—Concrete building structures. June 1.

15429.—Meredith, E.—Building blocks, etc. June 3.

Specifications Published.

163346.—Cowper, J. F.—Construction of fireproof floors, ceilings, roofs, staircases, and walls of buildings.

163368.—Harrison, C.—Apparatus for the shaping and moulding of headstones, archstones, or the like of any given radius in stone, marble, or the like.

163400.—Davis, J. G.—Floor and ceiling construction.

163438.—Grice, W. S.—Method of constructing the walls of buildings.

163746.—Alexander, H.—Sheets, blocks, tiles, and the like for building and other purposes.

163770.—Boughey, W. S., and Colpoys, A. B. G.—Mechanically elevated scaffold staging for buildings or other purposes.

163783.—Calver, G. — Construction of structures from concrete and the like blocks, slabs, and the like.

163892.—Patterson, D. C.—Building construction.

Abstracts Published.

161596.—Houses; hutments. — Hoare, T. F., 83 Towngate, Wyke, Bradford, Yorkshire.—A dwelling-house of the cottage type comprises cast-iron flanged uprights with lugs to support battens to which the inner wall is attached, and a single layer of blocks grooved to engage the uprights and form the outer wall. The inner wall may consist of fibre boards, fibrous plaster, three-ply wood, etc., and the outer wall blocks may be solid or hollow and formed of slag, concrete, terra-cotta, wood, etc., and may be coated on the inside with asphalt or bitumen after erection. The eaves members connecting the uprights are provided with gutters and flanges which receive the rafters. The roof sections are made up off the site, the components such as timber or concrete being cut to size in grooved templets; the several sections are then assembled on the dwelling and bolted together at the hips. Cross-bars and tie-rods may be provided between the uprights for the doors and windows, and the floor consists of coke-breeze concrete covered with boards, asphalt, or cement and sawdust. An upper story may be added.

161640.—Walls and floors. — Wilkins, G. W., 703 Stoney Stanton Road, Coventry.—In concrete walls and floors cast in situ, wooden skeleton bricks are employed comprising perforated sides spaced apart by blocks preferably located away from the ends. The hollow structure formed by the bricks when laid is filled with concrete, and the inner face plastered or papered and the outer face rough or smooth cast. The outer boards may be removed for re-use, and the inner boards may form a wainscoting or ceiling frieze. For floors and ceilings, the two layers of boards may be placed with the holes out of alignment. The bricks may be made from waste munition trays.

The above particulars are specially prepared by Messrs. Rayner & Co., of 5 Chancery Lane, London, from whom readers of this Journal may obtain all information free relating to patents, trade-marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1/- each.

Housing Policy of the Future

An endeavour is being made by the National Housing and Town Planning Council to ascertain the views of Members of Parliament of all parties in the House of Commons relative to questions of future housing policy, and more espcially concerning the steadfast adherence to the National housing programme entered upon in 1919.

In the weekly record issued by the Council, it is stated that, whilst there would seem to be a sincere desire amongst Members of Parliament of all parties to secure the building of an adequate number of houses, it is clear that the high building costs which prevail are regarded with great anxiety by them. It is urged that, now that the boom in industrial building which characterised the whole of the year 1919 and lasted throughout the greater part of 1920 has passed, there is no valid reason why houses, built in accordance with good designs and up to proper standards of accommodation, should not be built at prices appreciably lower than those recorded in the tenders submitted to local authorities. In this respect housing committees are in agreement with Members of Parliament.

It is proposed, therefore, by the National Council to prepare for the use of Members of Parliament an analytical statement, setting out in clear detail the various items of cost in housing schemes, together with a series of constructive suggestions as to the way in which the best interests of economy can be served. This statement will, however, be submitted first of all for consideration by the delegates attending the series of conferences of local authorities throughout Great Britain, to be held in June and July.

Rome Scholarship in Architecture

Particulars have been issued of the 1922 competition for the Rome Scholarship in Architecture, and for the Henry Jarvis Studentship. The Rome Scholarship will be of the value of £250 per annum, and will be ordinarily tenable at the British School at Rome for three years. Candidates must be British subjects, and less than thirty years of age on July 1, 1922. Admission to compete may be granted at the absolute discretion of the Faculty to candidates over thirty years of age, provided they have spent in War Service at least that number of years by which their age exceeds thirty. The Jarvis Studentship will be of the value of £250 per annum, and will be ordinarily tenable at the British School at Rome for two years. This Studentship will be confined to Students or Associates of the R.I.B.A., but otherwise the conditions for the two awards will be the same. The competition, which will be conducted by the Faculty of Architecture of the British School at Rome, will be in two stages: (*a*) A preliminary examination open to approved candidates; (*b*). A final competition, open to not more than ten candidates selected from those competing in the preliminary examination.

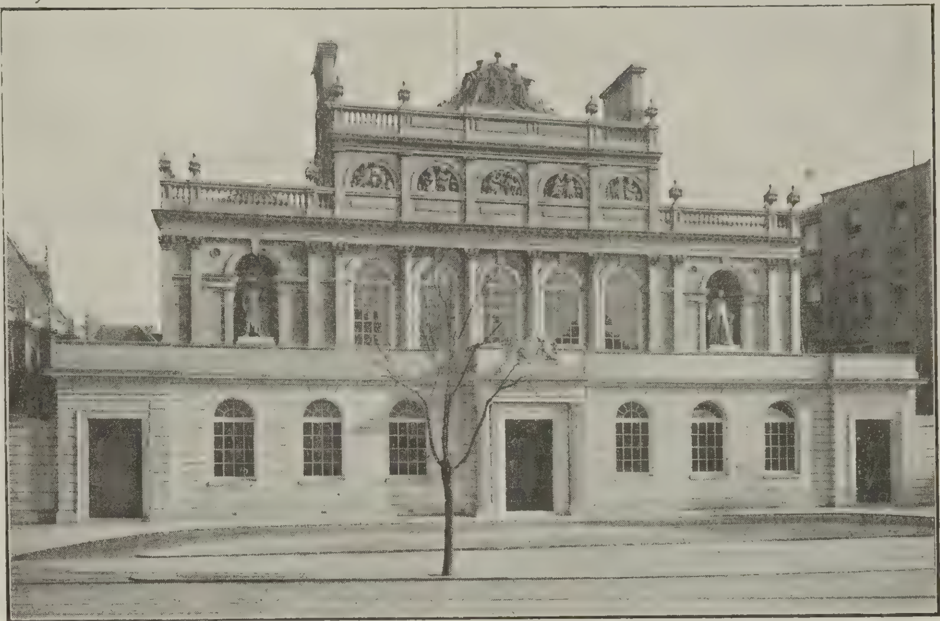
Application to compete in the preliminary examination must be made on the prescribed form to the Honorary General Secretary, British School at Rome, 1 Lowther Gardens, Exhibition Road, London, S.W. 7, not later than November 1, 1921. Due notice will be given to approved candidates of the time and place of the preliminary competition, which will extend over a period of thirty-one days. The first twelve hours of the examination will be held *en loge* at approved centres, and during this time the candidate will be required to make a sketch design of the subject which will be announced at the opening of the examination, and he will be required to deliver up a tracing of the sketch design at the end of the first twelve hours. The candidate may choose his own time and place for the execution of the finished designs, which must adhere substantially to the sketch design done on the first day.

The first part of the final competition will be held in London at the R.I.B.A., and will consist of a continuous examination of thirty-six hours *en loge*, during which time the candidate will be required to make a sketch design of the subject, which will be announced at the opening of the competition. At the end of the thirty-six hours the candidate will deliver up a tracing of the sketch. In the second part of this competition candidates will be allowed for the execution of their finished designs a period not exceeding twelve weeks. Candidates may complete their designs, which must adhere substantially to their sketch designs, in their own time and place. The successful candidate in this competition will be recommended for appointment to the Rome Scholarship, and the Student or Associate of the R.I.B.A. who is placed next in order of merit will be recommended for appointment to the Jarvis Studentship.

[The winning designs of the 1921 final competition were illustrated in our last issue.]

The Bristol School of Architecture

Some Impressions of the Opening, by an Eye-witness



HOME OF THE BRISTOL SCHOOL OF ARCHITECTURE—THE ROYAL WEST OF ENGLAND ACADEMY.

THE most ardent well-wisher of the Bristol School of Architecture, or, to give it its proper title, the Royal est of England Academy School of rchitecture, could scarcely have wished r it a more auspicious send-off than that uchsafed to it on the occasion of its ening by the Prince of Wales on ne 10. The conjunction of the Heir to e Throne and the Presidents of the oyal Academy and the Royal Institute British Architects as principal actors the opening ceremony of a provincial hool of the kind was, to say the least it, unusual—overshadowing, though not, course, detracting from, the presence what, under ordinary circumstances, ould have been a sufficiently disnguished company of supporters, inuding the President of the Architectural ssociation (Mr. W. G. Newton); Prossor Beresford Pite; Mr. G. Gilbert cott, A.R.A.; Mr. Maurice E. Webb, nd many others of architectural ninence.

Impressive, too, in another way, was e great gathering at the evening recepon. The Prince and Sir Aston Webb he star turns) had returned to London, nd this was clearly not a collection of the lle or curious, but a drawing together of e best elements of a city, very far from ean, for the express purpose of rejoicing ver the advent of a welcome addition to e civic family; an influential, intellient, sympathetic company, whose preence and interest augur well for the ighest prosperity of this, the latest, enture of the West Country.

Everything went well. True, the rince failed, in the mad rush of a five ours' hustle, to keep to his time-table, nd the ceremony was, therefore, comulsorily curtailed; but the informality procedure which necessarily resulted dded charm and piquancy to what, in ny case, would have been a flying visit. harm, too, was not lacking from the inner in the famous Oak Room of the ed Lodge, where the President and ouncil of the Bristol Society of Architects entertained their London visitors—a charm by no means limited to the beauty of the architectural setting.

The writer was privileged to be present at each of the functions mentioned, and is satisfied, from what he saw and heard and felt, that the Bristol School is destined to become a notable factor in the revival of English architecture. And this opinion is due to no mere emotional reaction to the influences of a wonderful day: there are solid, tangible grounds for the faith professed. First, the school was established, not to impose education upon the unwilling, but in response to the definite appeal of students whose zeal and capacity is clearly demonstrated by the stuff they have produced in the five short months of the school's career. Secondly, it was created, not by the solitary and conceivably self-tainted activity of an individual, but by the concerted and self-sacrificing effort of a band of enthusiasts, in the guise of the Bristol Society of Architects. Too much emphasis cannot be placed on the fact that this Society has not only borne the cost of the foundation of the school, but has made itself responsible for its maintenance. Finally, it was abundantly clear to all who had eyes to see and ears to hear that the purpose of the promoters is to educate in the widest sense of the word.

That students of the Bristol School shall be able to hold their own in competition with the students of other schools for the professional prizes and scholarships is by no means their whole intention. Rather, it is their hope and aim

THE OPENING CEREMONY AT BRISTOL SCHOOL OF ARCHITECTURE.

Reading from left to right the figures standing on the platform are those of the President of the Royal Academy, Sir Aston Webb, K.C.V.O., C.B.; the President of the Bristol Society of Architects, Mr. G. C. Lawrence; the Sheriff o Bristol; H.R.H. the Prince of Wales; Admiral Halsey; the President of the Royal West of England Academy, Dame Janet Stancomb-Wills, D.B.E.; the Lord-Lieutenant of Gloucestershire, Earl Beauchamp; the Lord Mayor of Bristol; the Chairman of the Council of the Royal West of England Academy, Mr. E. W. Savory; the President of the Royal Institute of British Architects, Mr. J. W. Simpson; the President of the Architectural Association, Mr. W. G. Newton.

(held and stated, be it said, with due modesty) that the efforts they have put forth, and propose to maintain and augment, shall presently produce a system of all-round training not unworthy of the great art whose interests they have set themselves to serve.

The profane may gibe, but in these days of short-cuts and so-called "intensive culture," of over-emphasized draughtsmanship and meretricious superficiality, it is refreshing to come in contact with a body of opinion so fully alive to the fact that the production of architecture demands the exercise of those highest qualities of mind and spirit, in the absence of which mere technical skill is a veritable instrument of the devil.

On the arrival at the entrance to the Academy, the President (Dame Janet Stancomb Wills); Messrs. G. C. Lawrence, F.R.I.B.A., R.W.A., President of the Bristol Society of Architects; E. W. Savory, H.R.W.A., Chairman of the Council; Sir Aston Webb, P.R.A., Senior Vice-President of the R.W.A.; John W. Simpson, P.R.I.B.A., Vice-President of the R.W.A.; W. G. Newton, P.A.A.; Mrs. Richardson, Vice-President R.W.A.; and Mr. Chalton Bradshaw, F.R.I.B.A., Director of the School, were presented to his Royal Highness.

In the Winterstoks Gallery, where the formal proceedings took place, Dame Janet Stancomb Wills, D.B.E., H.R.W.A. (President of the Royal West of England Academy), presided. On her right was H.R.H. the Prince, and on her left was the Lord Mayor of Bristol, with Sir Aston Webb, and Mr. Simpson.

Among those present were Sir Frank Wills, F.R.I.B.A.; Mr. Maurice Webb, D.S.O., M.C., M.A., F.R.I.B.A., and Mrs. Webb; Mr. H. E. Chaddock; Mr. W. H. Salisbury, Secretary of the Royal West of England Academy; and Mr. W. J. Stenner, A.R.I.B.A., Hon. Secretary of the Bristol School of Archtects. Members of the Council interested in the proceedings were Messrs. Graham C. Awdry, F.R.I.B.A., R.W.A.; Mowbray A. Green, F.R.I.B.A., R.W.A.; George H. Oatley, F.R.I.B.A., R.W.A.; S. S. Reay, F.R.I.B.A., R.W.A.; Sir Frank W. Wills, F.R.I.B.A., R.W.A.; and Messrs. J. Bertram Wills, F.R.I.B.A., R.W.A., members of the Council of the Bristol Society of Architects; with Frank N. Cowlin, Hon. Assoc. B.S.A., and E. F. Fabian, R.W.A., Hon. Assoc. B.S.A., members of the Academy Council.

At the dinner given at the Red Lodge by the President and Council of the Bristol Society of Architects the President, Mr. G. C. Lawrence, A.R.I.B.A., occupied the chair, and those present included Sir Frank Wills, F.R.I.B.A.; Professor Beresford Pite, F.R.I.B.A.; Messrs. J. W. Simpson; W. G. Newton, M.C., M.A. (President of the Architectural Association); G. Gilbert Scott, A.R.A. (past-President of the Architectural Association); Maurice Webb, D.S.O., M.C., M.A., F.R.I.B.A.; E. W. Savory; H. Wills, F.R.I.B.A.; W. T. Plume (London); Graham C. Awdry, F.R.I.B.A.; G. H. Oatley, F.R.I.B.A., Peter Fry, C.M.G., D.S.O., F.R.I.B.A.; F. R. Yerbury (Secretary Architectural Association); T. H. Weston, F.R.I.B.A.; B. F. Wakefield, F.R.I.B.A.; S. S. Reay, F.R.I.B.A.; A. B. Botterill, A.R.I.B.A.; H. Chalton Bradshaw, A.R.I.B.A.; W. J. Stenner, A.R.I.B.A. (Hon. Secretary of the Bristol Society); C. A. Bernard, and Frank Cowlin.

At the reception, held in the evening at the Royal West of England Academy, the guests were received by Dame Janet Stancomb Wills, Mr. J. C. Lawrence, President of the Bristol Society of Architects, and Mr. J. W. Simpson, P.R.I.B.A..

No new enterprise could have been initiated under more favourable auspices; and the very wide interest manifested augurs well for the success of the Bristol School of Architecture.

Fashions in Architecture

The last of the series of Thursday afternoon lectures on architecture, arranged by the R.I.B.A., was given by Mr. H. S. Goodhart-Rendel, the Rt. Hon. Earl Ferrers presiding.

Mr. Goodhart-Rendel said he would not attempt to give an exact definition between a fashion and a style. Fashions must be imposed from without, but styles developed from within. Fashions, however, might develop into styles, and some styles proved so transient that they could be dismissed as fashions. He instanced Renaissance as an architectural style which began in a fashion, and all the pretty Italian ornament in such buildings as the Church of St. Eustache, in Paris, or Bishop West's Chapel, at Ely, was nothing more than mere modishness. In Italy Renaissance, Classicism was not a mere fashion, even at its inception; it was indigenous. But the history of Renaissance architecture in England was a sad one, though, fortunately, the story had a happy ending. No mediæval masons had been more skilful than those who made the Chapel of Henry VII at Westminster, but a hundred years later there did not seem to be a metal-worker or carver in the land whose productions would not have disgraced a South Sea Islander. The gracious building tradition of the Tudors had become utterly debauched by a detestable fashion for Low German ornament, executed with a vulgarity which even the kindly fretting of time could scarcely make tolerable to the eye. The fatal practice of copyism was first met in England, and the Palladian reactionaries built houses that were specimens of Italian architecture first, and afterwards contrived to be habitable houses. No noble of the time of LouisXIV of France ever submitted to such stately inconvenience as was welcomed by the English grandees of the succeeding generation, and there was nothing more surprising in our architectural history than the docility with which, during a period of eighty years, men consented to build for their own habitation whatever strange things their architects might propose.

Mr. Goodhart-Rendel then went on to catalogue "buildings which were in the first place specimens of Italian architecture," touched upon the revival of Gothic, the Victorian Italian, nineteenth-century Gothic, French Gothic, the "Queen Anne" movement—identified with the name of Norman Shaw, although John Shaw originated it—the Louis Quatorze fashion, Jacobean, the Arabian manner of Owen Jones, German Gothic, Parisian neo-Grec, Spanish Renaissance, and the Greek revival, which we had come to call by the name "Regency."

Mr. Clynes on Housing

If good wishes in the present be any augury of success to come, a rosy future should await Amalgamated Housing Industries, Ltd., which made a first public appearance at a luncheon given by the Chairman and Directors at the Savoy Hotel last Thursday. Despite the many Government and Municipal housing enterprises that have been launched, the cry of the homeless is still all too persistent throughout the land, and if the Company can, in fulfilling any part of its expressed aims, alleviate to some extent the distress that now prevails it will richly earn the whole-hearted gratitude of the community. This was the keynote of an eloquent speech made by Mr. Clynes, who proclaimed with no uncertain voice the faith that was in him, and expressed his heartiest good wishes for the success and prosperity of the new enterprise.

Dwelling on the urgent necessity of providing adequate homes for the people, Mr. Clynes traced the conditions which had led up to the present *impasse*. Attention had for years been solely concentrated on war purposes, but at the same time war conditions had created an immensely increased demand for houses, until it became impossible to find reasonable shelter at a reasonable cost. They were faced by the economic problem of the rent and the social problem of the nature of the accommodation to be provided.

He welcomed, he said, the advance in building as compared with fifty years ago. Architecture and handiwork had alike improved, and there was an attempt to satisfy the soul and spirit of man, as well as to minister to his physical comforts. Nevertheless, the present Government had not succeeded in tackling the housing problem, nor had it been solved by local authorities. Frankly he would prefer an adequate State alternative to private enterprise, but if the former was not forthcoming he, and organized labour with him, would express his heartiest good will towards this company or any other that could by mass production and successful organization help to bring down the costs of building.

Touching on the economic situation generally, Mr. Clynes emphasized the urgent necessity of repairing the export trades on which our national prosperity depends. The country was being impoverished by under output, and scarcity, adding the element of dearness to everything, was the enemy of the workmen. Reduction in price was infinitely preferable to advance in wages, and he would have every workman educated in the elements of political economy.

Improved housing would mean an altogether higher standard of citizenship, increased cleanliness, better education. The law had enforced improvements in factories and working conditions, sheer force of desire should impel an equal improvement in the homes of the people. Self respect, and a sense of national obligation should stimulate builders to give of their best; theirs would be the satisfaction of creative work worthily completed.

Lieut.-Colonel Sir Walrond Sinclair (Chairman), Sir Charles Ruthen, Mr. Ernest Brown, and Mr. Kempton Dyson also spoke.

The Cost of Building

he following report of the Building lustries Consultative Board on the t of building has been approved by the ncil of the R.I.B.A.

t the request of the Council of the yal Institute of British Architects the ard has given special attention to the h cost of building and the future pros- ts of the building industry. In the sidered opinion of the Board, after mination of the evidence submitted to the situation may be summarized as lows :—

. The cost of building in this country s now, probably, reached its maximum. nployers and operatives have already reed upon reductions in the rate of ges; materials are now more readily tainable than at any time since the r, and the prices thereof are, in many ses, appreciably reduced.

2. The outlook of the industry for the ure is, on the whole, hopeful. The neral demoralization due to war con- ions is gradually passing away, and e Board is glad to record instances of pport given by the trade unions to taining better output.

3. Extensive schemes for building are orted by architects to be under con- leration. The lower prices should bring ch schemes forward for execution, and ereby increase employment in the ilding and collateral trades.

4. The Board has already expressed its nviction that freedom from the inter- rence of Government Departments is sential to the prosperity of the building dustry. In its opinion the progress of tional housing has been greatly hindered, e cost increased, and the efficiency and mfort of the houses impaired by the eless and harassing intervention of ate officials.

The Board welcomes the fact that the overnment have announced their in- ntion of removing the embargo on uxury" building.

5. The Board views with apprehension e creation and growth of any "rings" d "combines" by manufacturers whose tivities have the tendency to keep up ices and limit production. Any com- nations which eliminate trade compe- tion are a danger to industry unless the nsumer is allowed to benefit by the ductions they are able to effect in the st of administration and production.

6. Enterprise in building, as in other ades, is adversely affected by shortened edit due to the financial position of the untry. The Board earnestly invites the overnment to reduce public expendi- re, and to repress the ambition of ficials to increase the scope and power their respective departments, with eir consequent cost to the nation.

John W. Simpson,
President, The Royal Institute of British Architects, Chairman.

J. P. Lloyd,
London District Council National Federation of Building Trades Operatives, Vice Chairman.

Appended is a list of the members of ne Board :—

Architects.—Appointed by the Royal stitute of British Architects: Messrs. ohn W. Simpson, President R.I.B.A. Chairman); Ernest Newton, C.B.E., .A., F.R.I.B.A.; Delissa Joseph, F.R.I.B.A.; and Major Harry Barnes, M.P., F.R.I.B.A. Appointed by the Society of Architects: E. J. Sadgrove, F.R.I.B.A.

Surveyors.—Appointed by the Surveyors' Institution: Messrs. F. H. A. Hardcastle, F.S.I., A.R.I.B.A.; R. B. Mann, F.S.I.; Dendy Watney, F.S.I.; Walter Lawrence, F.S.I.; and Alan Paull, F.S.I.

Building Trades' Employers. — Appointed by the Institute of Builders: Messrs. E. J. Hill and R. B. Chessum. Appointed by the National Federation of Building Trades' Employers: Messrs. F. L. Dove, D.L., L.C.C.; A. H. Adamson; and J. B. Johnson.

Building Trades' Operatives. — Appointed by the National Federation of Building Trades' Operatives: Messrs. J. P. Lloyd, London District Council, N.F.B.T.O. (Vice-Chairman); D. Haggerty, General Secretary of the National Builders', Labourers', and Constructional Workers' Society; S. Stennett, London District Secretary of the Amalgamated Society of Woodworkers; T. H. Goodey, London District Secretary of the Amalgamated Union of Building Trade Workers; and J. Murrey, Secretary London District Council, N.F.B.T.O.

Correspondence

Housing Fees

To the Editors of THE ARCHITECTS' JOURNAL.

Sirs,—May I call your attention to the Ministry of Health's latest cut at architects' fees in their Memo 51/D. The scale of fees we are now told are "inclusive scales covering all out-of-pocket expenses"; but "the Minister will be prepared to allow as a charge to the Housing (Assisted Scheme) Account reasonable travelling expenses in respect to journeys over 25 miles from the architect's office."

Is not that kind of him, although both Memorandums, Nos. 4 and 31, say that the conditions of engagement shall be "those which are customary"? I hope your readers have not been indulging too much in motor-car hire; a walk of 24 miles there and 24 miles back is only just enough to keep one fit you know.

But after all perhaps the Lord Chief Justice takes precedence of the Minister of Health.

DIONYSOS.

The Memorandum referred to was summarized in our last issue.—Eds. A.J.

Stage Devices

To the Editors of THE ARCHITECTS' JOURNAL.

Sirs,—Apropos of the many theatre reconstruction schemes now contemplated, may I express the hope that the plans of the stage will incorporate those mechanical devices which have been tried with such success in continental theatres for more than a quarter of a century, but which with two or three exceptions have not been introduced into London theatres? Although the initial cost of installation is undoubtedly high, this is compensated for by a substantial reduction in the wages bill.

ARCHITECT.

R.I.B.A. Conference at Liverpool

Following is the programme of the Conference of the R.I.B.A. to be held, in conjunction with the Liverpool Architectural Society, at Liverpool, June 24 and 25, under the presidency of Mr. John W. Simpson, P.R.I.B.A.

Thursday, June 23.—Members arrive in Liverpool.

Friday, June 24.—10 a.m., Official opening and reception of members in the Town Hall by the Lord Mayor of Liverpool. 10.30 a.m. to 1 p.m. (*a*) Paper: "The Unification and Registration of the Architectural Profession," by Mr. John W. Simpson, P.R.I.B.A.; (*b*) Paper: "Official Architecture," by Mr. Maurice E. Webb, F.R.I.B.A.; (*c*) Paper: "Propaganda and Publicity," by Professor C. H. Reilly, F.R.I.B.A. 2 p.m., Visit to Port Sunlight and Bromborough Pool. 7.30 p.m. Banquet at the Midland Adelphi Hotel.

Saturday, June 25.—10 a.m. to 1 p.m., (*a*) Paper: "Building Contracts," by Mr. H. D. Searles-Wood, F.R.I.B.A.; (*b*) Paper: "Architectural Education," by Mr. Lionel Budden, A.R.I.B.A.; (*c*) Paper: "Present Day Building Problems," by Mr. T. T. Rees, F.R.I.B.A. 2.30 p.m., Visits to the Cathedral, the Cunard Building, etc. 4 p.m., Tea, Britannia Café, at the invitation of Messrs. Willink and Thicknesse, FF.R.I.B.A. Trip up the River arranged by the White Star Company.

Sunday, June 26.—10.30 a.m., Special service for the members of the conference in the Cathedral and sermon by the Bishop of Liverpool in the Lady Chapel.

The headquarters of the conference will be in the Conference Room in the Walker Art Gallery, where there will be an exhibition of students' drawings on view. Members of the conference are requested to make their own arrangements for hotel accommodation. The hotels specially recommended are: The Midland Adelphi Hotel, The Exchange Hotel, The London and North Western Hotel.

The conference banquet, at which ladies are particularly invited to be present, will be held at the Midland Adelphi Hotel. (Evening dress, medals, etc.). The price of the banquet will be 12s. 6d. each, exclusive of wine and cigars.

Members who intend to be present at the conference are requested to communicate as soon as possible with the Secretary, R.I.B.A., 9 Conduit Street, London, W.1, stating the fact and mentioning whether they will be present at the banquet and whether they will be accompanied by any guests.

Architects' Cricket Match

The cricket match between sides representing the R.I.B.A. and the A.A. will take place on the A.A. ground at Elstree, on Wednesday, June 29. Play will begin at 11 a.m. sharp, and stumps will be drawn at 6.30 p.m. A motor bus with the A.A. team and supporters will start from the A.A. (34 Bedford Square), at 10 *a.m.* Any members of the R.I.B.A. team or supporters who wish to travel by this bus should communicate at once with the Secretary R.I.B.A., 9 Conduit St, W.1. The return fare is 3s. 9d. Lunch 2s. 6d. and tea 1s. will be served on the ground.

The Week's News

New Works for Swansea.

The Sunderland Forge and Engineering Company have taken land at King's Dock, Swansea, where they propose erecting large works.

Doncaster Sewage Scheme.

The Council has decided to apply to the Ministry of Health for sanction to the borrowing of £410,000 for the new sewage scheme.

Guildford Housing.

The R.D.C. has decided to invite tenders for the erection of twelve houses in the Send and Ripley parish, and twelve at West Horsley.

Houses for Alfreton.

The Alfreton Urban Council has decided to ask for tenders for the erection of seventy-four more houses in Alfreton and Swanwick.

Faversham Housing Scheme.

The R.D.C. has decided to invite tenders for the erection of houses at Boughton, Harnhill, Sheldwich, and Teynham, in connection with the local housing scheme.

Enforced Building at Aldershot.

Unless the Aldershot Town Council agree to build a domestic science centre at a cost of £15,000, the Board of Education has threatened to withdraw the education grant.

Mold Housing.

The Ministry of Health has sanctioned a scheme for the erection of sixty-four workmen's dwellings at a cost of £40,410, and authority to borrow the money has been received.

The late Mr. Thomas Green.

Mr. Thomas Lampard Green, of St. Thomas Mansions, Westminster Bridge, and formerly of Sackville Works, Eagle Street, Holborn, builder and contractor, who died on 21 March, has left £217,053, of which £175,428 is net personalty.

Housing at Nottingham.

Nottingham Housing Committee has accepted a tender for the erection of twelve houses, designed by the municipal housing architect, at a cost of £497 each, being about £300 less than under previous contracts. They will be of the bungalow type, comprising an entrance hall, parlour, living-room, two bedrooms, etc.

A Correction.

In the course of an article on "Will the Whitgift Hospital Have to go," by Mr. L. Brook Partridge, published in our issue of 8 June, it was stated that Mr. Henry Berney was the architect for Messrs. Allder's new premises at North End, Croydon. This, we are informed, is incorrect; the architect being Mr. J. W. Stanley Burmester, F.R.I.B.A., F.S.I.

Building Materials.

The work of the Building Materials Supply Department of the Ministry of Health is now completed, and the Ministry is anxious to dispose of all the supplies that have been accumulated since the termination of the war. After these have been absorbed, the department will be definitely closed, and business will flow through the ordinary channels.

Bolton-upon-Dearne Sewerage.

The population of Bolton-upon-Dearne has increased so rapidly that the Council have again had to consider the extension of their sewerage and sewage disposal scheme. At the recent Ministry of Health's Inquiry, the Council's proposals were explained by their consulting engineers, Messrs. W. H. Radford and Son, of Nottingham. The scheme includes a new gravitation sewer and extensions to the disposal works.

Cargo Jetty for London.

The new Tilbury cargo jetty, which has just been completed at a cost of over £300,000, is a double-decked structure 1,000 ft. long and 50 ft. wide, parallel to and at a distance of 160 ft. from the shore, with a railway approach viaduct 900 ft. long and 26 ft. wide. The upper deck is equipped as a quay, with cranes and railway trucks, and the space between the upper and lower decks is enclosed to form a series of four transit sheds divided by fireproof partitions.

The Late Mr. T. A. Ashworth.

It is with deep regret that we announce the death of Mr. T. Arnold Ashworth, senior partner in the firm of Messrs. T. Arnold Ashworth and Son, of Liverpool, architects. Mr. Ashworth was sixty-six years of age, and a native of Manchester, where he served his articles and commenced his career. Some twenty-five years ago he transferred his professional activities to Liverpool. He designed many fine examples of residential, banking, commercial, and general public buildings.

The New Cunard Building, Liverpool.

A feature of particular interest in connexion with the Conference of Architects to be held in Liverpool on June 24 and 25 will be the visit to the new Cunard Building. The architects for the building were Messrs. Willink and Thicknesse, and Messrs. Mewès and Davis, and the contractors were Messrs. Holland and Hannen and Cubitts, Ltd. All the reinforced concrete work was designed by The Trussed Concrete Steel Co., Ltd., whose hollow floretyle construction was adopted. The heavy reinforced concrete cornice on the building has been greatly commented upon, as it projects nearly seven feet from the wall-face, and is quite unique in its method of design.

House-Moving.

The widening of Second Avenue in Pittsburg made necessary the moving of an eight-story building a distance of 40 ft. The building was a brick and steel structure, about 30 ft. by 120 ft., and was loaded with hardware. It was necessary to move it without any disturbance to the usual business, which proceeded during the entire operation, which was carried out recently. The weight of the structure was more than 5,000 tons, and it was lifted 16 in., together with the sidewalks at the front and side, and slid over by means of ten screw jacks, moving at the rate of 1 ft. an hour on steel rollers operating on rails.

Scottish Housing Costs

Mr. J. Wittet, Elgin, architect, stated at the inquiry in Edinburgh into housing costs that in building in the north considerable economies could be effected by the use of stone and home wood. The Local Advocate stated that the estimated cost of housing schem approved by the Scottish Board Health at April 30 last was £19,425,37 Architects were remunerated according a scale agreed upon by the Scotti Board of Health and the Institute Scottish Architects. The question of scale of fees for measurers was being co sidered by the Board in conjunction wi the Faculty of Surveyors in Scotland. certain districts it was the custom f architects to act as measurers.

Competition News

New Hospital Buildings at Cairo.

New Buildings of Qasr el' Aini Ho pital and School. Accommodation 1,22 beds. Assessor, Mr. John W. Simpso P.R.I.B.A. Apply, enclosing cheque draft for three Egyptian pounds, or i equivalent in sterling, to the Secretar R.I.B.A., 9 Conduit Street, London, W. (see our issue for April 20, 1921). Closin date for preliminary competition, Octo ber 3.

North Wales Heroes' Memorial.

Memorial, in the form of a buildin with sculpture as a feature, to be erecte in the grounds of the University Colleg Bangor. Total cost, £15,000. Prize, £10 Apply the General Secretary, Roya National Eisteddfod of Wales, Carnarvo The President of the R.I.B.A., M John W. Simpson, has nominated M Gilbert Scott, A.R.A., F.R.I.B.A., a assessor in conjunction with Lord Ply mouth. Closing date, July 23.

Wolverhampton War Memorial.

War Memorial adjoining St. Peter' Collegiate Church. Premiums, 150 gs. 100 gs., and 50 gs. Assessor, Mr. John W Simpson, P.R.I.B.A. Apply Mr. F. E Warbreck Howell, Town Clerk, Wolverhampton. Closing date, August 13.

Birmingham Hall of Memory.

The War Memorial Committee have decided to invite designs from local architects for a Hall of Memory, to be erected at a cost not exceeding £30,000 at the corner of Broad Street and Easy Row. The assessor is Sir Reginald Blomfield, R.A., and premiums of £500, £300, and £200 will be awarded for the designs placed first, second, and third respectively. The competitors must have occupied offices in Birmingham for the past six months. Designs are to be sent in before the first week in October.

Wandsworth Park.

The Council of the Metropolitan Borough of Wandsworth invite landscape architects and gardeners to submit competitive schemes for laying out, for the purposes of a park and recreation ground, about 31 acres of land situate between Garratt Lane and Buckhold Road, Wandsworth. Apply the Borough Engineer, Mr. P. Dodd, M.Inst.C.E., 215 Balham High Road, S.W. 17. Deposit one guinea. Closing date, 5 September. Premiums 100 guineas and 50 guineas respectively to the authors of the schemes placed first and second by the Council.

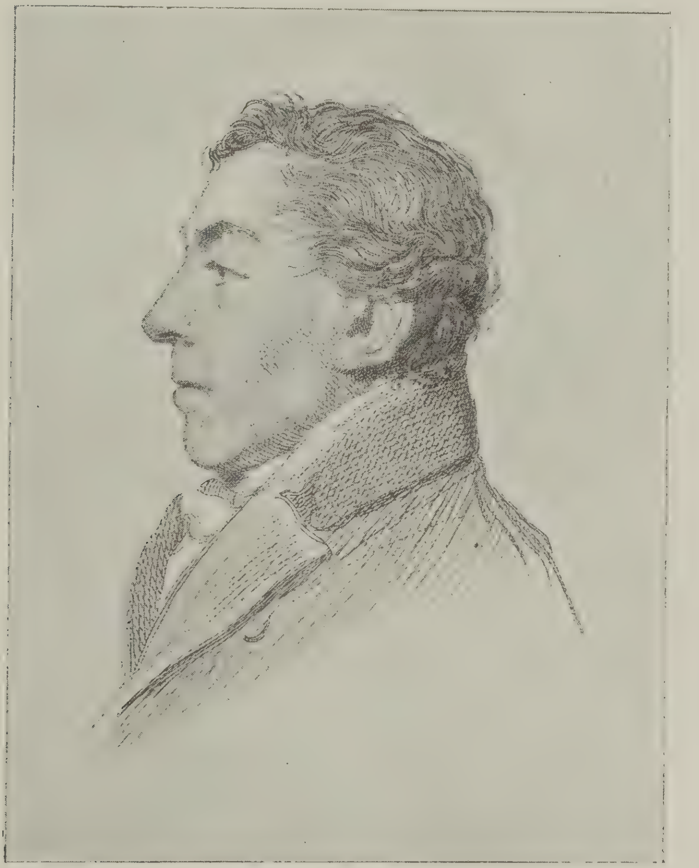
Leamington War Memorial.

The design for a war memorial of Mr. Albert Tott has been accepted by the Leamington War Memorial Committee. The memorial takes the form of a figure of a British soldier standing with arms reversed.

Wednesday, June 29, 1921. Vol. LIII. No. 1382

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



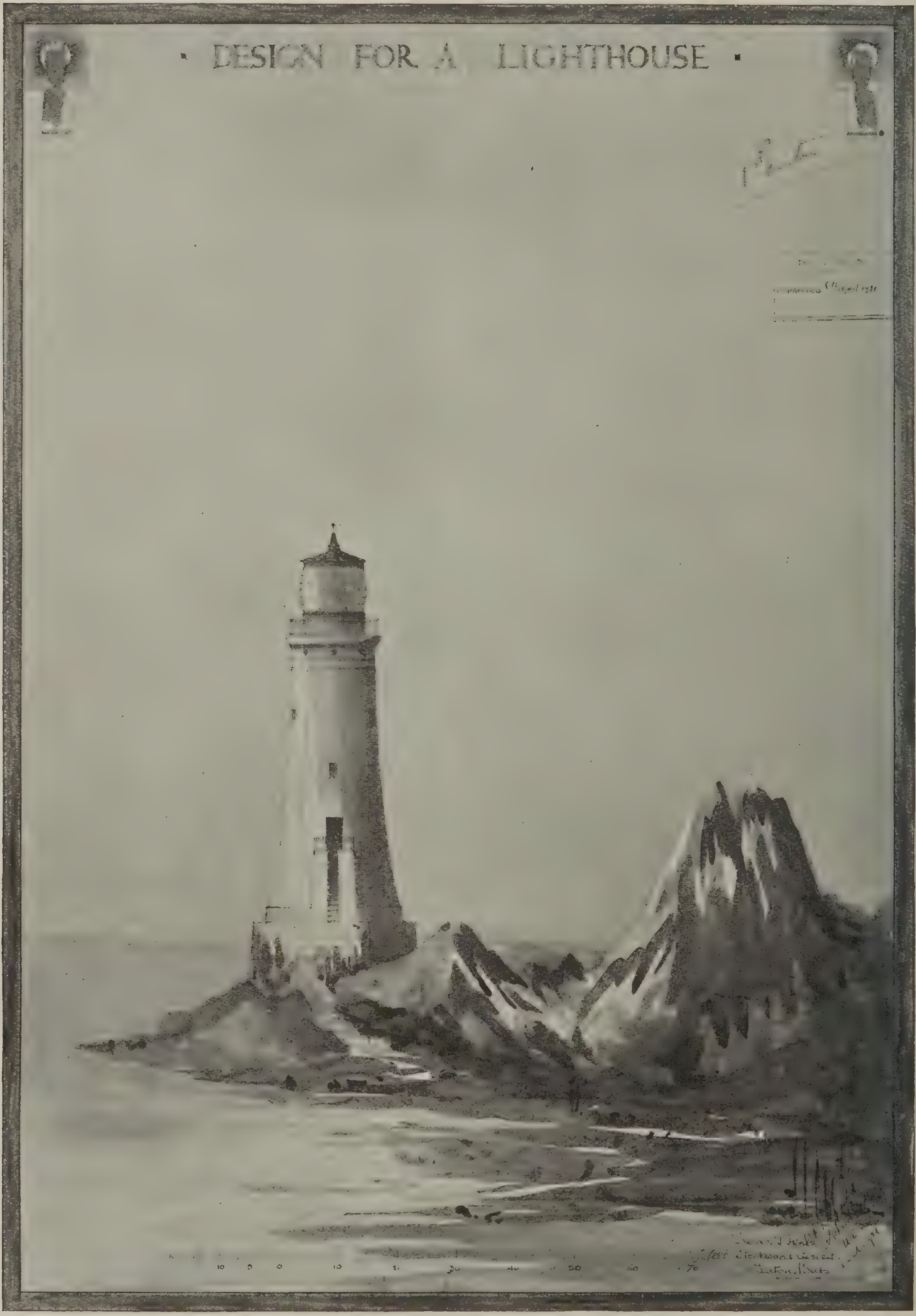
THOMAS BANKS, R.A. (1735-1805)

Thomas Banks was a Londoner, born in Lambeth. He became, at an early age, pupil to Kent, who described himself as "painter, sculptor, and architect," to which description a wag added "gardener and tailor." It is possible that Banks learned a little architecture, his bas-relief showing some degree of skill in it. He was one of the first exhibitors at the Royal Academy, where his works attracted the notice of Reynolds. In 1770 Banks won the R.A. Gold Medal and was sent to Rome at the expense of the Academy. His work was largely classical, but his beautiful effigy of a sleeping girl in Ashbourne Church, Derbyshire, was his most popular success. His many groups in Westminster Abbey and St. Paul's Cathedral attest his love of allegorical subject and treatment.

27-29 Tothill Street, Westminster, S.W.1.

Architectural Designs. 14.—A Stone Lighthouse

By E. G. Hines (London University [Evening] School of Architecture)



This design was prepared in the Evening School of London University School of Architecture, and has been accepted by the R.I.B.A. as a Testimony of Study. The lighthouse is conceived as being on an isolated rock close in to the shore, the light 60 feet above high-water level. An article on the work of the Department appears on page 795.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, June 29, 1921 **Volume LIII. No. 1382**

Fame and the Architect

"WHAT'S in a name?" Fame is in it, sometimes, but not very often for the architect, who in surprisingly few instances "makes a name" among his contemporaries. Mr. W. J. Locke, in his breezy foreword to Mr. L. Cope Cornford's History of the R.I.B.A., expatiates on this subject. He contrasts the architect's modest anonymity with the blatant publicity accorded by the Press to other artists, instancing the common glorification of the painter, the literary person, and the musician. With these it is the custom to seek more or less greedily the sweet uses of advertisement, whereas the architect deprecates and shuns so "vulgar" an expedient.

This is, no doubt, the architect's one weakness, and Mr. Locke apparently feels that the reasons (if any) for this shrinking modesty of the architect are out of date. A logical development of the architect's self-denying ordinance is that his reticence is slightly misunderstood by the lay Press, which naturally concludes that so retiring a man would hate to have his name as much as whispered in connection with his work. This is the real reason why the Press adopts, as regards the architect, its normal attitude of, "Oh, no! we never mention him—his name is never heard," or hardly ever; but Mr. Locke accounts for it in another way. "The Press," he says, "prides itself on having its finger on the public pulse. It thinks that the public does not want to hear about architects; and, in a general way, it doesn't give to the public what the public doesn't want." Mr. Locke's diagnosis from the symptoms does not appear to be quite indisputable, nor is his suggested remedy beyond challenge. He thinks that "to every paper there should be attached an architectural critic—just as there are attached music, art (painting), dramatic and literary critics." According to Mr. Locke, "he should give a reasoned criticism of every building of importance erected in the country. He should hammer the name of the architect into the brain of the public. The public loves names. It is so human a thing to be interested in personalities."

It is very plain, however, Mr. Locke notwithstanding, that architecture is not in the same category as music and the other sensuous arts. In the view of the general public a building is primarily a work of utility. It should, of course, be a work of art also. But of this it is necessary to convince the "semi-educated man" (Mr. Locke's phrase) before he will burden his mind with the name of the architect of any structure less notorious than the Cenotaph; and nine hundred and ninety-nine out of every thousand worshippers of that shrine could not tell the name —surely bruited about enough—of its architect—do not even know it had an architect, so few of the general public having the slightest understanding of what an architect is, of his function in the cosmic scheme.

After all, Mr. Locke is not making any very extravagant claim for the recognition of the architect and of architecture. His plea that at least one man in a million should delight in recognizing in a work of art the mind of an architect as he recognizes the hand of a painter should by no means be impossible of realization. An average "semi-educated" layman is proud of his accomplishment in being able to say of a picture (without furtively looking at the signature), "that is a Sargent, a Shannon, a David Murray," and should take an equal pleasure in identifying an Aston Webb, a J. S. Gibson, a John W. Simpson (all the names are of Mr. Locke's choosing).

For undoubtedly every building of distinction bears the impress of its authorship. Whether or not it should, like a picture, bear on it the signature of its designer, is a separate question, which, though Mr. Locke does not raise it, is worth a passing reference. There is only one really formidable argument against this illuminating practice—namely, that the young architect, who, by reason of his youth, has most eagerness to sign his buildings, will in his maturity be sorry to see his early work labelled with a name to which his later work may have given lustre! But the building might be dated as well as signed, and most young architects would willingly pay the mild penalties that reputation brings! and there is much solid truth in Mr. Locke's airily expressed assurance that "the public loves names." At least, it remembers them; and they give vital interest to a man's performance. All the thrilling interest in the recent exhibition of works by painters whose names were not at first announced lay in the attempts of the "semi-educated" to identify the painters' names; but a guessing competition as to the authorship of buildings would be—actually is—very poor sport, because ascertainment would be so difficult!

As to the proposal for attaching an architectural critic to the staff of every important lay periodical, there is much to be said on both sides of the argument. Architects are no exception to the rule that, generally speaking, artists distrust and dislike criticism, which, to be sure, is often grossly unfair, being too commonly dictated by personal predilection, prejudice, perversity, jealousy, favouritism, in rare (but not rare enough) instances by downright vindictive animosity; one set persistently "writing-down" the protégés of another set, in the manner of the English bards and the Scots reviewers of the old, unhappy, far-off verbal fights (sometimes degenerating into more or less farcical duels) that polluted the early nineteenth century. If criticism were always purely academical, and always strictly platonic, and never viciously polemical, it might profitably be introduced into the domain of architecture; but as, more often than not, criticism (falsely so called) in the lay periodicals is made the medium either of mendacious log-rolling or of savage personal attack, we want to see architects effectually protected from it. Such corrupt utterances are useless, or worse, for art, and are often ruinous to the reputations of inoffensive artists; and they do much harm in corrupting the public appreciation by praising fulsomely some work that on its merits (or demerits) deserves nothing but hearty condemnation.

These ugly facts have to be faced, although the estimable author of "The Beloved Vagabond" is too genial a soul to have taken them into account. Possibly, measuring others by his own amiable standard, he imagines that all critics of architecture would hearken to the voice (echoing down the corridors of time) of Sir Arthur Wing Pinero, who would have it that the food of the gods on which art best thrives is "Praise, Praise, Praise—nothing but Praise." But your average critic prefers to reserve that commodity for the clique he usually represents.

Notes and Comments

The King and Queen in Belfast

BELFAST has been brought into the full glare of the limelight by the visit of the King and Queen to open the Northern Parliament. Special supplements to certain newspapers have given comprehensive descriptions of the city, including more or less perfunctory references to some of its buildings. One writer, after declaring that Belfast is to Dublin and Cork as Liverpool is to Bath or Oxford (which is about as futile a comparison as that of the old tag, " As Pitt is to Addington, so London is to Paddington "), nevertheless claims for the citizens of Belfast that they have developed an architectural conscience. In proof of this gratifying phenomenon, he cites the City Hall (1898–1906 : Sir A. Brumwell Thomas, architect) and the Technical Institute; but the churches, the Queen's University, the large Free Library, the Campbell College, the Wesleyan Methodist College, the Belfast Royal Academy, the Royal Victoria Hospital, the Ulster Hall, the Harbour Commissioners' office, and the many fine industrial buildings, although not put forward in support of this æsthetic claim, would in several instances strengthen the case very considerably. To what extent the city will change its character architecturally as a result of becoming a seat of Government as well as a centre of industry is a theme for interesting speculation. Will the one character ultimately oust the other, or can the two co-exist ?

Existing seats of Government may serve to show the absurdity of such a question. They prove that a seat of Government is quite compatible with thriving industry within sight of it, but that in the immediate vicinity of the Houses of Parliament there is likely to spring up a quiet residential quarter, inhabited mainly by representatives and relatives of the governing classes. On the general character of a busy shipping port like Belfast, the effect of changing the City Hall into a Parliament House is not likely to be instant and tremendous; but it will surely—perhaps slowly and subtly—alter the architectural character of its immediate environment, and the influence will spread diffusively even down to the harbour, and will penetrate to the suburbs. There should be some considerable gain in architectural dignity to reflect the heightened status. The " Architectural conscience " will become more acutely sensitive.

Castle Junction, Donegall Place, and Royal Avenue will have impressed the King and Queen less by the beauty than by the immensity of many of the buildings there; many, however, being of exemplary architectural character; and their Majesties, in passing through the High Street, will not have failed to note the graceful, though Gothic, clock tower commemorating Prince Albert.

Street Crossings

Our street crossings are so many death-traps. It is frightful to contemplate the toll they constantly levy on human lives and limbs, and what little has been done to mitigate this horrible butchery is quite ridiculously inadequate. Our street engineering lags far behind the enormous developments in street traffic. Besides the wicked waste of life, there is incurred, at the intersections of the busy streets, a waste of time that must certainly be enormous; and time being money, it seems likely that hundreds of pounds sterling are daily forfeited where business vehicles are held at a standstill by the policeman's hand, as he stops the east and west traffic to make way for that going north and south, or as he reverses this dismally primitive process. As a " Times " contributor urges, it is reasonable to assume that where one half of the traffic is held up as a condition of the other half moving, a result is that " the stream of vehicles along each thoroughfare must be held up for 50 per cent. of the day while the traffic of the intersecting street passes over." That statement is no doubt mathematically correct, although some erudite application of the Einsteinian doctrine of the inter-relationship of time and space might be needed for the ascertainment of the exact amount of the loss. One method of avoiding that loss has been shown by the above-mentioned writer in " The Times " (June 18th), who, by means of a diagram, shows how a remedy is to sink the less important thoroughfare at the crossing, and bridge the other over it. This scheme has been anticipated by Messrs. Robert H. Whitten and Frank R. Walker, whose new thoroughfare plan for the City of Cleveland, U.S.A., was illustrated in the JOURNAL of May 11th last. It is part of a plan for a fairly complete system of traffic arteries for the City of Cleveland, the programme providing for the widening of ninety-eight thoroughfares, thirty-seven street extensions, and four new central bridges. Unless the Americans decline somewhat on their customary promptitude, they will have this work finished while we are still trying to make up our minds to abolish our " slaughter corners," forming amiable " Safety First " societies, whose first and last idea on the subject seems to be to devise ingenious methods of dodging destruction—a form of sport for which the aged and infirm are disqualified. When the Whitten and Walker plan is in actual being, our governing authorities will perhaps send over (at the taxpayers' expense) a delegation of engineers to see how it works. When the engineers, after a decent interval for deliberation and digestion, have prepared an unnecessarily voluminous report, Government and municipal authorities will unanimously shelve it, explaining that while they approve of the recommendations, the present financial position, etc., etc. But traffic constantly increases in volume, producing every year a longer list of killed and maimed, and whatever the cost of the remedy, we simply cannot afford to postpone its application indefinitely.

Health in the Workshop

The proceedings at the annual congress of the Sanitary Institute are always followed with close attention by architects, who are much indebted to it, as the Sanitary Institute is much indebted to them, for valuable co-operation in the priceless work of preserving and promoting the national health. This year's congress, held at Folkestone, was the thirty-second of the series, and was inaugurated by the Earl of Radnor, who put up a powerful plea for voluntary as against State control of the various health agencies, including very specially the hospitals, of which the State seems rather inclined to take charge. Lord Radnor contended that State hospitals would cost twice as much as they cost the voluntary authorities, who, moreover, have more healing virtue in them because the people have more faith and greater sympathy in voluntary effort. Lord Burnham, as president of the Industrial Hygiene Sections, made good points in urging that unless there was a concordat between employers and employed, it would be found that the great difficulty lay not in the material facts—though they might be stubborn enough—but in the veiled hostility, or, at best, the indifference of the working people to their own welfare. Other speakers noted, in effect, that factory owners simply could not afford to neglect the health of the workers; Sir Arthur Newsholme, for instance, citing the example of the United States, where the Government does but little welfare work, great industrial concerns acting on the realization that efficiency depends chiefly on factory hygiene—on the health and comfort of the workers. By the way, the Institute is about to establish a qualifying examination for welfare supervisors for factories. The Institute may be proud of the many reforms that, directly or indirectly, it has effected in the sanitation of buildings—the term "sanitation" being here employed in the widest possible sense. Undoubtedly, however, not the least of the fine functions fulfilled by the Royal Sanitary Institute is the focusing of architectural, medical, and sanitary opinion, and hence the spreading of the gospel of health.

The Popularizing of Architecture

By CHARLES COWLES VOYSEY

SO much has been said of late about the unfortunate condition of architecture in this country that few of us can have failed to have been startled into a belief that the practice of this art is in a tragic state indeed. The diagnoses of the disease are various. The resulting condition—produced apparently by a devastating kind of blight—is insisted upon and rubbed in to the point of irritation, being accompanied by nothing more than the mention of a doubtful panacea. To become aware of defects, and to make some even faulty analysis of them, is no doubt a first step, but it is the easiest step, and a futile one unless it is followed up by an attempt to find remedies and to act upon the finding.

Responsibility is fixed first on an ignorant and callous public, then on an ignorant and disintegrated profession, or more vaguely on an atmosphere or an age. The moral of all this must surely be clear—that progress can only be sought through the mutual understanding, interest, and co-operation of the profession and the public.

On one side we have now a body in the profession agreed on architectural matters up to a point, and determined to find ways towards improvement. We may leave out those to whom the perquisite is the most persuasive, and for whom the term Commercial Art has a special significance and these diatribes on art are a special annoyance. But, on the other hand there is, among the general public, and, what is more unfortunate, among the cultivated public, no corresponding interest, desire, or knowledge of the need for improvement. The attendances at the recent lectures at Conduit Street, the interest shown in the exhibitions at the Architectural Association, as well as the recent correspondence in the Press on architectural matters and the criticisms appearing in a few periodicals, are evidence of a germ of interest that might and should be cultivated.

Our primary need now is a stimulation of this reawakening interest. It is generally agreed that it remains for us to instruct and enlist the help of public opinion and to drive home the knowledge that architecture matters, that it matters to every individual, that the condition of his city streets and the character of the buildings with which he is surrounded do vitally affect his health, his temper, and his pocket. Good architecture can only be produced when this knowledge is general and when there is a real impulse among a people.

The Proposed Bronze Medal

In Paris it is the custom to award a medal for the best building of the year erected in that city. The Parisians are able to agree as to which is their best building and the author is awarded a conspicuous honour and receives the mark of official approval. As with the winner of the Grand Prix, who is forthwith employed by the Government on public works, individual merit is not only recognized but actually encouraged. Surely these are the more legitimate ways in which we might imitate the French. It is not proposed at present to rob the Office of Works of its supremacy, but it is proposed to establish a yearly prize—a prize not of money but of honour—for the best façade in London. We do not know whether the authors of this scheme laid down principles upon which the award is to be assessed, but, in spite of all the seeming and actual differences of opinion that exist, there is surely sufficient unanimity on the general principles underlying good architecture to ensure the unquestioned acceptance of such an award.

If this were done in London it is expected that the provincial societies would adopt a similar practice, and all the big cities would have their prize buildings. The designers of these buildings would receive a medal, and on the buildings would be a bronze plaque presented and fixed with all due ceremony.

This scheme seems admirably conceived as a means towards the creation of that interest for which we are working, for not only would building owners be encouraged to put up fine buildings, but the public would notice buildings singled out and emphasized in this manner. Photographs and notices would appear in the Press, and that attention which accompanies a competition and a prize would be aroused. The impression might be greater if a substantial monetary award was made to the architect. Perhaps when the scheme is in operation one of our millionaires will endow it with his name—and money.

It can be fancied that street conversations will ensue and one may hope that questions will be asked : " Why is that a prize building ? Why is that building good ? " Once that question is asked, and an answer waited for, there can be no turning back.

The Signing of Buildings

May we here register a plea that architects should sign their buildings ? This practice is suggested in the Code laid down by the Council of the Royal Institute of British Architects ; but the suggestion is seldom acted on, possibly from modesty, fear of advertisement, or because a building seldom reflects the real mind of its author and is not a matter to be proud of. But why should not architecture be signed just as sculpture or painting ? Much of the interest of a picture exhibition would disappear if there were no names on the canvases and in the catalogues, and the knowledge of names and authors comes apparently before an appreciation of their work. For it is easier to be interested in men and personalities than in works of art, and the former are easier to judge than the latter. Would not the appearance of these names on buildings help a little to catch public interest ?

If every building built by an architect bore its author's name a hint might be conveyed that sometimes behind the erections in our streets there was a man and a mind and a clear intention. For our critics, who at present seem to hold us responsible for everything, some distinction might then be possible between the few buildings that are designed and the many that just happen.

Popular Press Criticism

Perhaps the most useful of the many suggestions that have been put forward for the instruction of the public and the creation of a wider interest was contained in a letter in the May number of the Architectural Asssociation Journal. Mr. Manning Robertson points out the important part that popular press criticism should play in such a policy. This criticism, which has helped so largely to create and to sustain interest in other arts, has not been applied to architecture, presumably because it was not considered to be a subject of sufficient interest to be noticed. The chaotic state of affairs, and the lack of anything approaching an accepted æsthetic, may well have made this an impossible task in the past. This excuse can no longer be made. The regular articles that have been appearing in " The London Mercury," and some from time to time in " The Manchester Guardian " and " The Times," indicate that there are editors willing to give attention to these matters, and who believe that there is a public willing to read.

No building scheme of any importance should be allowed to escape popular criticism representing considered architectural opinion, or be allowed to pass unnoticed for the lack of this attention. We hope that Mr. Manning Robertson's proposal will receive the consideration of the architectural profession, and that concerted action will be taken to secure the assistance of editors in inaugurating a system of competent criticism of modern architecture.

Architectural Office Administration

By FRANCIS LORNE, A.R.I.B.A.

(*Continued from page 730, No. 1380*)

Extra and Credit Order Forms

Forms No. 19 and 20 show the method in which extra and credit orders on any contract may be presented to the contractor, as his authority for proceeding with, or omitting, certain works from the contract. These forms should be made in duplicate, one copy being kept on file, the original being sent to the contractor in question. The architect, of course, will have written authority from his client before sending these forms to the contractor.

GORDON & HENDERSON
Architects
21 George St. London.

3rd March, 1921.

House for GEORGE BUCHANAN, ESQ.

Extra Order No. ....19..........

To ....

You are hereby authorized to proceed with the following additional work in accordance with the terms of the original Contract, namely ....

................Architect.

Amount of Contract to date......................

Amount of this Extra Order ....

Total to date.................................. £

FORM No 19

GORDON & HENDERSON
Architects
21 George St. London.

3rd March, 1921.

House for GEORGE BUCHANAN, ESQ.

Credit Order No. ....19........

To ....

You are hereby authorized to omit the execution of the following work in accordance with the terms of the original contract, namely: ....

..............Architect.

Amount of Contract to date......................

Amount of this Credit ....

Balance .... £

FORM No 20

GORDON & HENDERSON
Architects
21 George St. London.
3rd March, 1921.
House for GEORGE BUCHANAN, ESQ.

Certificate No..................... ....19.....

To ....

...........hereby certify that..............................

.........................of ....

...................................is entitled to receive in accordance with the terms of the contract, the sum of.........

....

on account of ....

............Architect.

Amount of Contract to date...................... £
Amount previously certified .... £
Amount of this Certificate .... £

Balance uncertified to date .... £
Received the sum of ....

....

........19..... *Signed by Contractor.*

FORM No 21

Certificate and Request for Fees Forms

Forms Nos. 21 and 22 show the method in which certificates can be prepared for payments to the contractor, and the method in which the architect can claim fees for his professional services. These forms explain themselves, and should be made in duplicate, one copy being kept in the file, originals being sent, one to the contractor and one to the client, respectively. It will be noted that these forms take the place of a receipt, giving a full story of the claim, and in each case will be returned to the client duly stamped.

Clerk of Works' Report

Form No. 23 shows a typical clerk of works' report, which is self-explanatory, and should be filed in the correspondence along with copies of other forms as explained above.

GORDON & HENDERSON
Architects
21 George St. London.
3rd March, 1921.
House for GEORGE BUCHANAN, ESQ.

Fee for Professional Services rendered on account of............
Amount previously received....................... £
Amount of this Statement .... £

£

Received the sum of ....

....

...............19 .... *Signed by Architect.*

FORM No 22

(*To be continued*)

GORDON & HENDERSON,
Architects,
21 George Street, London.

Client .... *Location of Works* ....

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Remarks.
Weather							
Temperature							
Hours worked							
House breaking							
Excavations							
Shoring							
Underpinning							
Piling							
Footings							
Concreting							
Rough Brickwork							
Labourers							
Face Brickwork							
Waterproofing							
Terra Cotta							
Stonework							
Shuttering							
Floors							
Partitions							
Paving							
Roofing							
Carving							
Metalwork							
Pavement Lights							
Metal Lathing							
Wood Lathing							
Plastering							
Labourers							
Marble and Tile							
Carpentry							
Joinery							
Ironmongery							
Stairs							
Parquet Floors							
Glazing							
Painting							
Plumbing							
Gas Fitting							
Electric Light							
Heating							
Elevators							
Light Fittings							

FORM Nº 23

....
Clerk of Works.

D

Architectural Education: An Analysis of the Academic System*

By LIONEL B. BUDDEN, M.A., A.R.I.B.A.

WHEN I was first honoured with the invitation to deliver before this Conference a paper on architectural education, it was intimated to me that what was required was not an elaborate thesis attempting a philosophical survey of the entire subject, but simply the statement of a particular case—the case for the present academic system of training in architecture. I can, of course, only attempt to do so very briefly and imperfectly.

A reasonable system of training in architecture should, I submit, itself provide satisfactory answers to the following three questions :—

1. What are the subjects which the architect *qua* architect is required to know ?
2. In what way should they be taught ?
3. Under what conditions ?

It will be obvious that omniscience in the total field of learning (involved in the practice of architecture) is nowadays humanly impossible for any single member of the profession. To-day the immense elaboration of the art of architecture, its vastly increased resources, and the complex nature of the demands made upon it, altogether prohibit any individual from achieving a complete mastery of all the separate elements of its total content. For that state of affairs, then, which we are powerless to alter if we would, architectural education must now provide—and the academic system does provide for it.

There are, broadly speaking, three classes of candidates for admission to the profession : those whose interests strike an approximate balance between the constructional and the æsthetic aspects of architecture ; those who are chiefly attracted by construction ; and those whose main pre-occupation is with design. Two numerically smaller categories also exist : the candidates whose natural aptitude is for the legal and administrative side of practice ; these tend to group themselves with the constructionalists ; and the candidates who are first and foremost draughtsmen and colourists ; these inevitably ally themselves with the designers.

The main triple division here indicated corresponds to the main triple division that obtains in practice—the local practitioner, the constructional expert, and the designer ; and to them may be added the professional arbitrator and the perspective colourist.

The Academic System

To meet the needs of these three main groups and of the smaller groups related to them, the academic system offers three courses of training, each of five years' duration, and all identical in character up to the end of the third year ; for a basis of common knowledge is indispensable to efficient collaboration in the end. The first course is one that is taken at a pass level, and is framed to prepare graduates for the simpler type of general practice. The other two courses lead to honours or distinctions, in the one case in construction, in the other in design, and are intended to provide the initial equipment necessary to specialist work in those spheres. All three courses are purely technical, and comprise only such subjects as relate directly to architecture ; and each involves office experience.

The Curriculum

The first three years, the curriculum of which is common to all the courses, comprise, firstly, continuous studio-work in architectural construction and in design, supplemented by measured studies of existing buildings ; and, secondly, lectures in the history and archæology of architecture, in the theory of architectural planning and design in applied geology, physics, and mechanics, in construction, surveying, sanitation, and hygiene (including laboratory demonstrations in strength of materials), in descriptive geometry, sciagraphy, and perspective, and in presentative technique and rendering. Students taking the so-called "ordinary" course then proceed, during their fourth and fifth years, to further studio-work in design and construction, the latter involving the preparation of working drawings. Lectures on construction, on specifications, estimates, and contracts, on professional practice, and either on decoration and furniture, or on the history of ancient art, form the remaining part of the school curriculum for those years. In the fifth year a thesis is required showing advanced and individual work in *one* of the following alternative subjects : either in historical architecture or in the theory of architectural design, or in science as applied to construction, or in architectural design itself. Students who specialize at the end of their third year, if they are constructionalists, take a course which goes beyond that of the pass type. It prescribes as additional subjects reinforced concrete and quantity-surveying, and limits the choice of thesis to a special study of an application of science to definite problems in architectural construction. Similarly, candidates registering for the course with honours or distinctions in design must take, in addition to the subjects of the ordinary curriculum, lectures on advanced architectural programmes, civic architecture, and landscape design, and must offer a thesis which is either a direct or indirect exposition of architecture as an art. In all three cases a period of six months in each of the last two years has to be spent in the office of a practising architect, unless civic design be taken as an optional additional subject, when the whole of the fourth year must be spent in school work.

Let us now proceed to the second question. In what way should these subjects be taught ?

As the pupilage system may be said to be *in extremis* in all but the most remote parts of the country, it is not necessary to waste words in exposing its defects or in emphasizing how inevitable was its supersession by scholastic training in architecture. Issues less finally determined may be discussed with more profit. The new academic courses have provoked certain criticisms which it is important to meet. It is said that they are overelaborate, that the programme of studies set forth in them is too heavily loaded, and that they tend to make the teaching of architecture an analytic rather than a synthetic process. To the first objection I would reply that the subjects comprised within the courses I have outlined are all integral parts of architectural education as a whole, can be shown to be so, and must be accepted as such.

The second criticism has, I would claim, a justification that is more apparent than real. To architects not actually engaged in teaching work the schedule of subjects may seem very lengthy. But it must be remembered that the complete courses of study extend over five full years. Only the subjects of major importance run throughout the entire length of any one course. Others occupy only a portion of the whole, some extending over two years, some over one year, and some over no more than a term. They are arranged on a progressive interlocking system, and so arranged they do not impose an excessive strain on the capacity of students.

With regard to the third contention, the studio-work in an architectural school, if it be properly controlled and developed, is the synthetic product of the whole teaching of the school. In it is, or ought to be, summed up the knowledge which it is the aim of the separate lecture-courses to communicate. Those lecture-courses must themselves treat of their own proper subjects individually and separately ; for there is no method of which I am aware whereby one subject can satisfactorily be taught in terms of another. But these distinct branches of knowledge can be brought together and unified in the work of the school studio. And under the new academic courses they are so unified.

Claims of the Universities

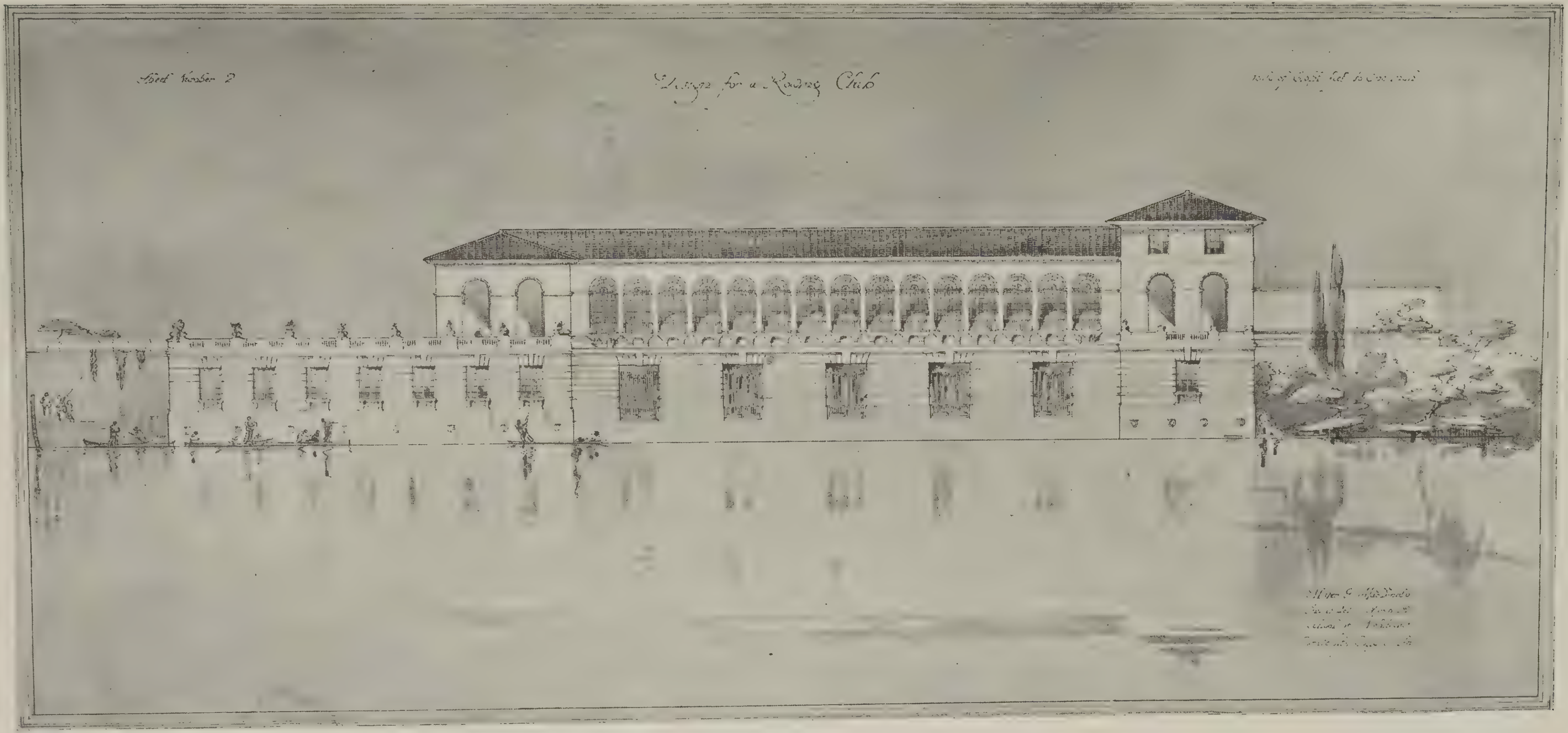
I come now to the last of the three questions to which I originally proposed to attempt an answer. The requirements of the kind of training that I have endeavoured to describe, point, I would maintain, to the same conclusion, that the universities alone, actually or potentially, possess the means to satisfy the whole claims of architectural education. Those claims, you will agree, are not merely technical, they are moral also ; and it is only fitting that the courses I have outlined should be crowned by an academic degree. The dignity of our profession and its right to public esteem alike demand it.

---

* Extracts from an address at the R.I.B.A. Conference, Liverpool, June 25.

Architectural Designs. 15.—A Riverside Rowing Club

By A. G. MacDonald (London University School of Architecture—Third Year)



In the Third Year, at London University School of Architecture, designs (based on tradition, but satisfying modern requirements) are made for buildings likely to be encountered in practice. Mr. MacDonald's design is a typical example of Third Year Work. An article on the work of the Department begins on page 795.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

London University School of Architecture

SOME selections of the work prepared in the School of Architecture at University College form part of this issue. The department has been a feature of University College for many years, and has just passed through a session of great activity. The new buildings, built and equipped by Sir Herbert Bartlett, Bart., have enabled a large number of students to avail themselves of the special educational facilities attached to training in a university centre.

The First Year course includes lectures on ancient, Greek, and Roman architectural history, building construction and mathematics, and lectures on draughtsmanship and composition, correlated to studio studies of classical elements and combined construction and design subjects. The drawing published on this page is an essay in simple carpentry and timber roof construction.

Students of the Second Year attend lectures on mediæval and Renaissance architecture, advanced construction and mechanics, and elementary theory of design. Studio subjects are arranged to give a closer knowledge and a chronological aspect of the great periods of European architecture. A speciality is made of combined construction and design subjects. The reproduction on page 796 shows the plan of a design for a small Roman bath.

In the Third Year, designs (based on tradition, but satisfying modern requirements) are made for buildings likely to be encountered in practice. The lectures embrace all phases of modern construction and advanced theory of design. Construction drawings, relating to the lectures, are made of some of the design subjects. A Third Year design is shown on pages 793, 797.

One day a week is given by every student to freehand drawing.

Fourth and Fifth Year courses have been instituted as from the opening of the next session in October.

At the close of three years a certificate is granted giving exemption from the R.I.B.A. Intermediate Examination.

In addition to the full-time day course, there is an evening school and an architectural atelier. The evening school—the only one of its kind in London—provides for students who for some reason have been unable to take a full-time course, an opportunity of attaining the necessary standard for admission to the atelier, or to prepare Testimonies of Study for the Institute examinations.

The atelier reopens in October in a specially equipped studio. It provides for students who have ended their school course a facility for increasing their knowledge of design during the period which intervenes between sustained academic studies and actual practice.

Following are the programmes of the subjects illustrated in this issue :—

FIRST YEAR : SECOND TERM.—*Time, Three Weeks. A Timber Barn.*

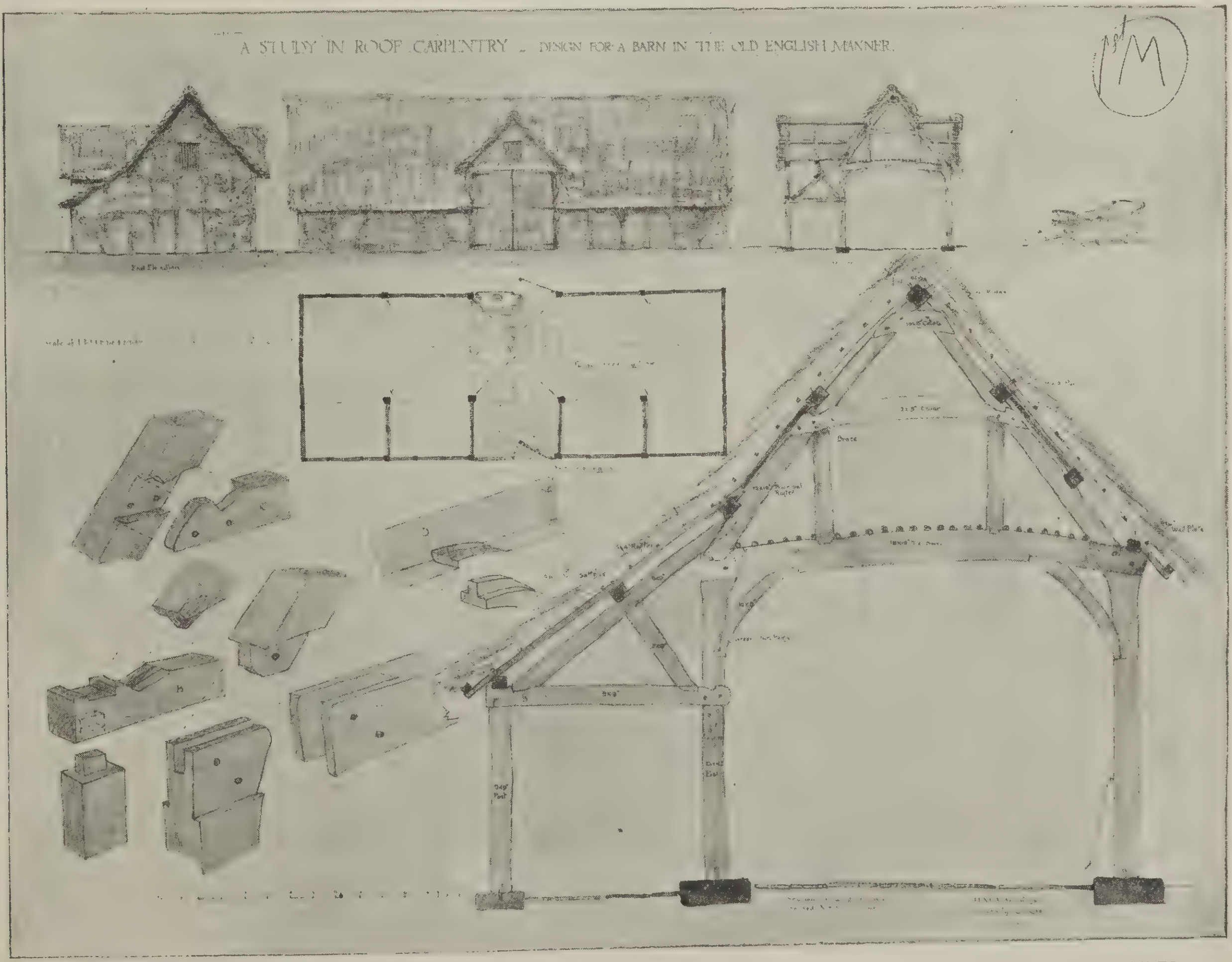
A study in English traditional roof carpentry. The wall filling was to be in timber or brick, and the roof in thatch. The area of the barn was to be about 2,000 ft. super.

SECOND YEAR : SECOND TERM.—*Time, Three Weeks. A Roman Bath.*

This programme assumed that a Roman emperor of the first century A.D. had commanded the building of a private bath in the grounds of his summer palace. The main accommodation required was (other than attendants' rooms), a Vestibulum, a Frigidarium, and a Tepidarium, decorated in a richly imperial manner. The site was open and level, and of an area of approximately 30,000 ft. super.

THIRD YEAR : SECOND TERM.—*Time, Two Weeks. A Riverside Rowing Club.*

The site is on the apex of a northward bend of a river. The accommodation required is : Storage for 70 boats, lunchroom for 100 persons, dressing and locker rooms for 150 members, a loggia from which races could be viewed, necessary service and lavatories, quarters for a caretaker.


A STUDY IN ROOF CARPENTRY — DESIGN FOR A BARN IN THE OLD ENGLISH MANNER.
M

DESIGN FOR A BARN IN THE OLD ENGLISH MANNER (FIRST YEAR WORK, LONDON UNIVERSITY SCHOOL OF ARCHITECTURE).

Mr. William J. Locke on Architectural Neglect

One of our most brilliant novelists has written a vigorous Foreword to a History of the Royal Institute of British Architects, which has been written by Mr. L. Cope Cornford, under the title of "The Designers of our Buildings," and will shortly be published by the Institute.

Mr. Wm. J. Locke in his Foreword makes a strong attack on the attitude both of the public and the Press towards the architectural profession. He was for eleven years secretary to the Institute, and he says, among other things, that "Between the public and the architect, unfortunately, yawns a great gulf from which arises a strange mist. The most ignorant man sees a picture, and he knows that some one man has painted it; he reads a book and he knows that some one man has written it; he hears a piece of music, and he knows that some one man has composed it. He sees a great building rear itself, stone by stone, at the corner of a familiar street, and it never enters his silly head to realize that some one man has designed it.

"The fault, to some extent, lies with architects themselves. They deprecate advertisement. The degraded novelist goads his publisher to advertise him all over the place, and this gets his name known. The architect, by the rules of his profession, can't advertise, and thus his name is not known. The fault, to an even greater extent, lies with the Press. It prides itself on having its finger on the public pulse. It thinks that the public does not want to hear about architects; and in a general way it doesn't give to the public what the public doesn't want.

"The Press has the incalculable power to bridge over the gulf between the public and the architect, and to dissipate the mist. To every paper there should be attached an architectural critic—just as there are attached music, art (painting), dramatic and literary critics. He should be, like the music critic (of the others I have opinions which it would not be becoming of me to state here)—a technician. There are hundreds of architects qualified for the post, as any newspaper could find out by application to the Secretary of the R.I.B.A. The architectural critic should give a reasoned criticism of every building of importance erected in the country. He should give the name of the architect. He should hammer the name of the architect into the brain of the public. The public loves names. It is so human a thing to be interested in personalities. Any semi-educated person who goes to the Royal Academy Exhibition will see a picture afar off and say: 'Ah! that's Sargent, or Shannon, or David Murray, or Cadogan Cooper.' But what man in a million will pass the perfect annexe of Inigo Jones's Banqueting Hall in Whitehall and say: 'Ah! Aston Webb'; or the exquisite Middlesex Hall in Westminster and say: 'Ah! J. S. Gibson'; or the restrained beauty of the new offices also in Westminster of the Crown Agents for the Colonies and say: 'Ah! J. W. Simpson!' But the public will say it, and will take joy in saying it if only it is guided. And the Press can guide it. Personality—still more personality—always personality—of the architect."

Mr. Cope Cornford deals with the Institute from the time it held its meetings in Evans's Rooms, Covent Garden, 1835, wherein was also the "Cave of Harmony" described by Thackeray, down to the present, when it is the ultimate and recognized authority for the architectural profession.

The King and the R.I.B.A.

The Chairman of the Scrutineers, appointed by the Council of the R.I.B.A. to direct the election of the officers and members of the Council and Standing Committees for the ensuing year of office, sent the following telegram to His Majesty the King :—

"To His Majesty the King,
Buckingham Palace.

"Members of the Royal Institute of British Architects assembled for their annual election tender loyal congratulations to their Gracious Patron on his birthday.

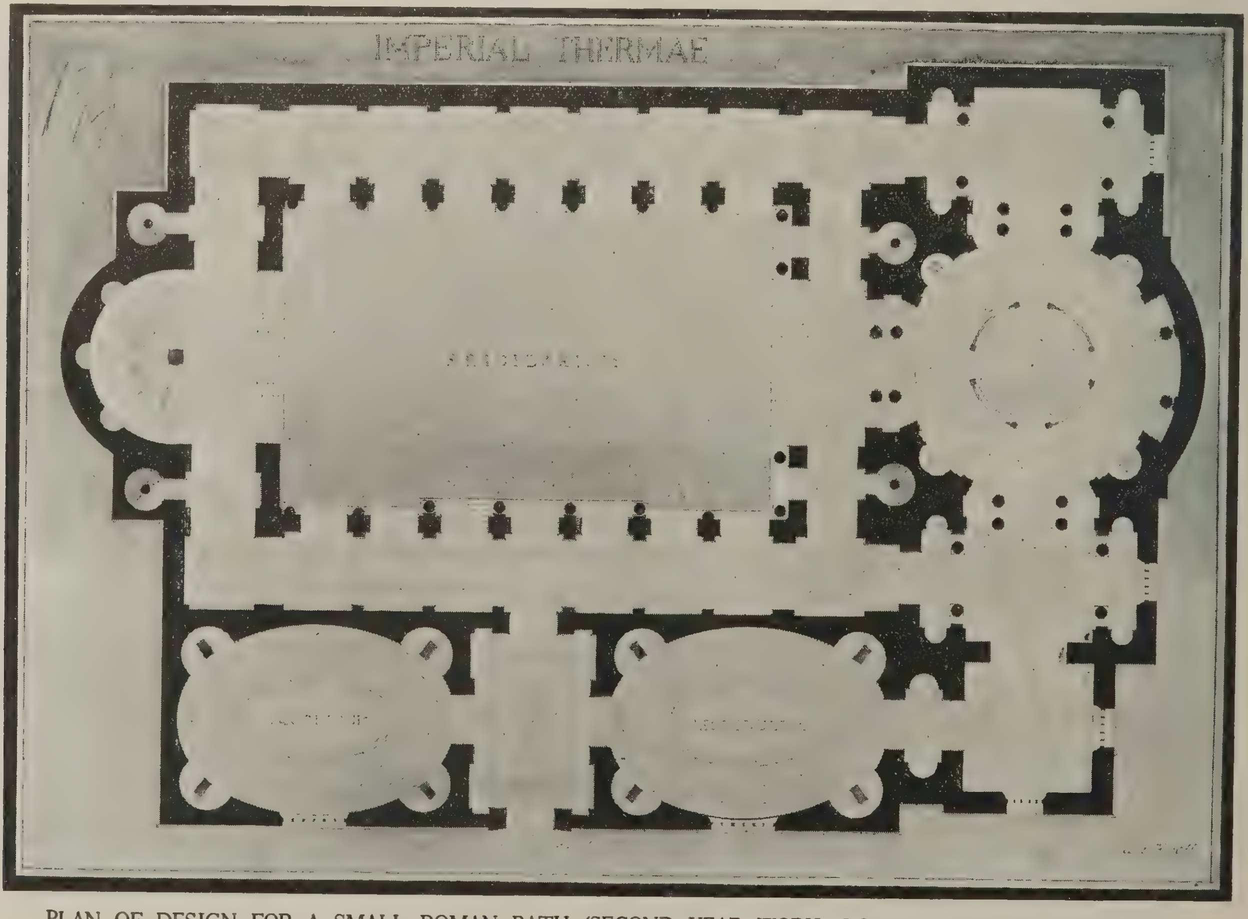
"C. H. Brodie, Chairman."

The following gracious reply was received on the same day :—

"The Chairman of the Scrutineers,
Royal Institute of British Architects,
9 Conduit Street, W.

"The King has received with much pleasure the loyal message which you have addressed to His Majesty on behalf of the Royal Institute of British Architects assembled for their annual election. I am desired to say that as Patron the King takes the keenest interest in the welfare of the Association.

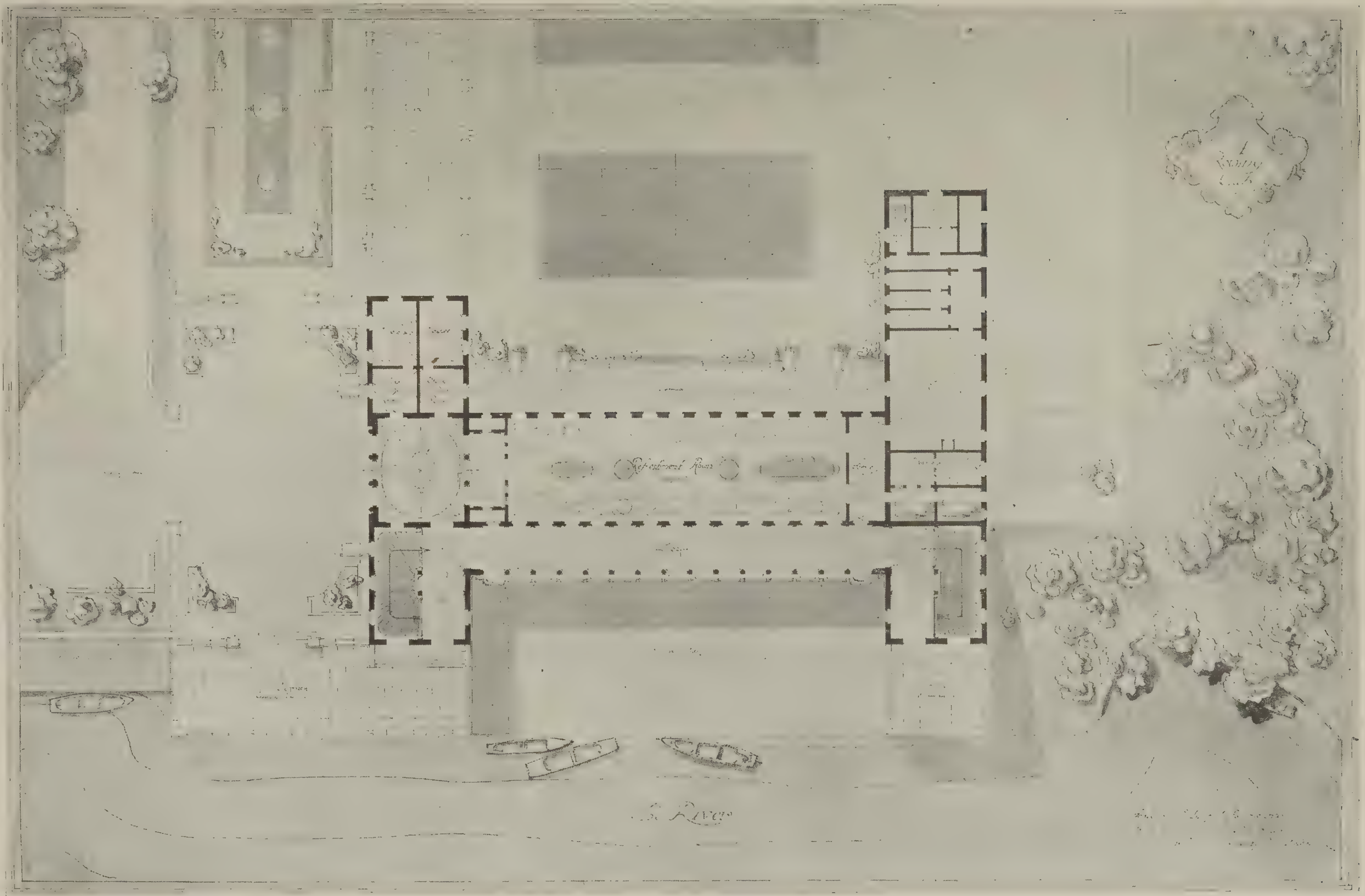
"Stamfordham."



PLAN OF DESIGN FOR A SMALL ROMAN BATH (SECOND YEAR WORK, LONDON UNIVERSITY SCHOOL OF ARCHITECTURE). BY A. L. KNOTT.

Architectural Designs. 16.—A Riverside Rowing Club: Plan

By A. G. MacDonald (London University School of Architecture—Third Year)

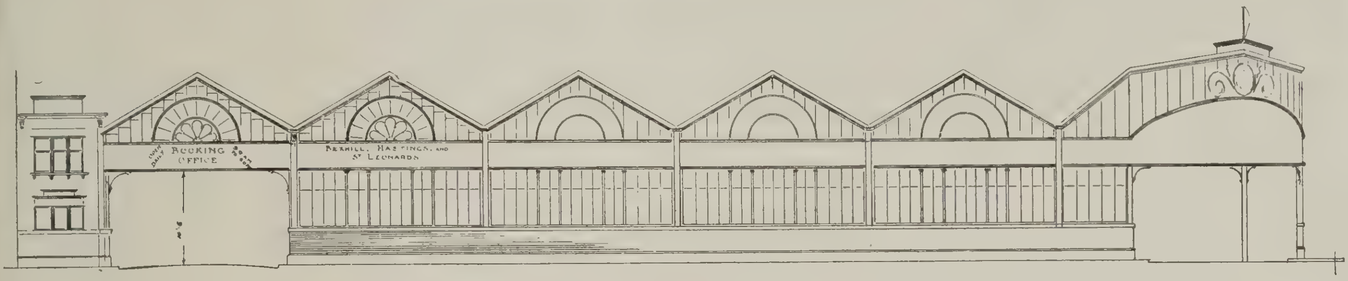


This is a typical example of work by a Third Year Student (second term) in the London University School of Architecture. The site is on the apex of a northward bend of a river. The accommodation required was: Storage for 70 boats, lunchroom for 100 persons, dressing and locker rooms for 150 members, a loggia from which races could be viewed, necessary service and lavatories, quarters for a caretaker. An article on the work of the department begins on page 795.

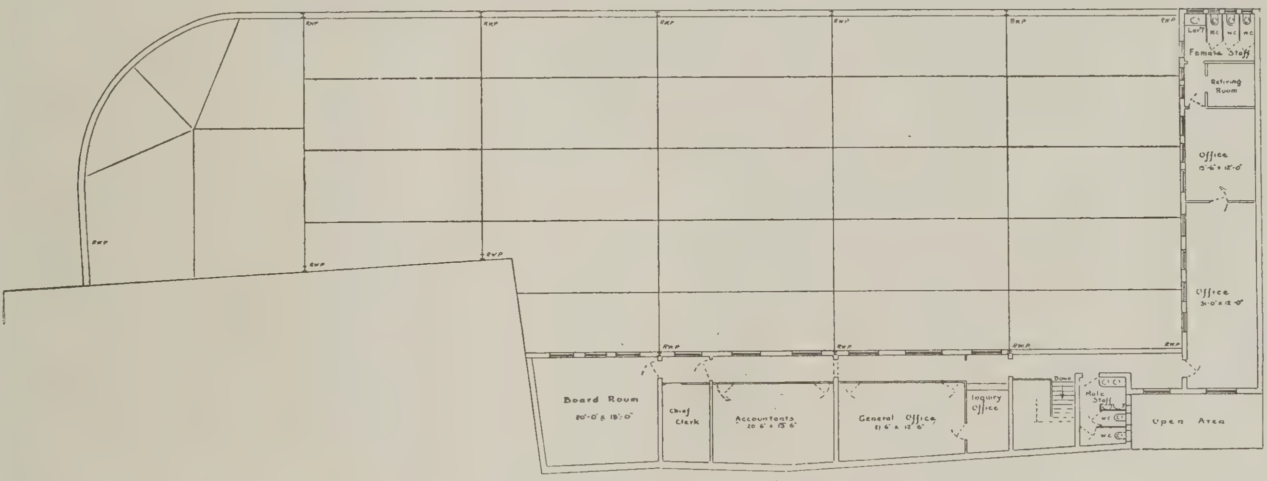
THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

A Motor Coach Station

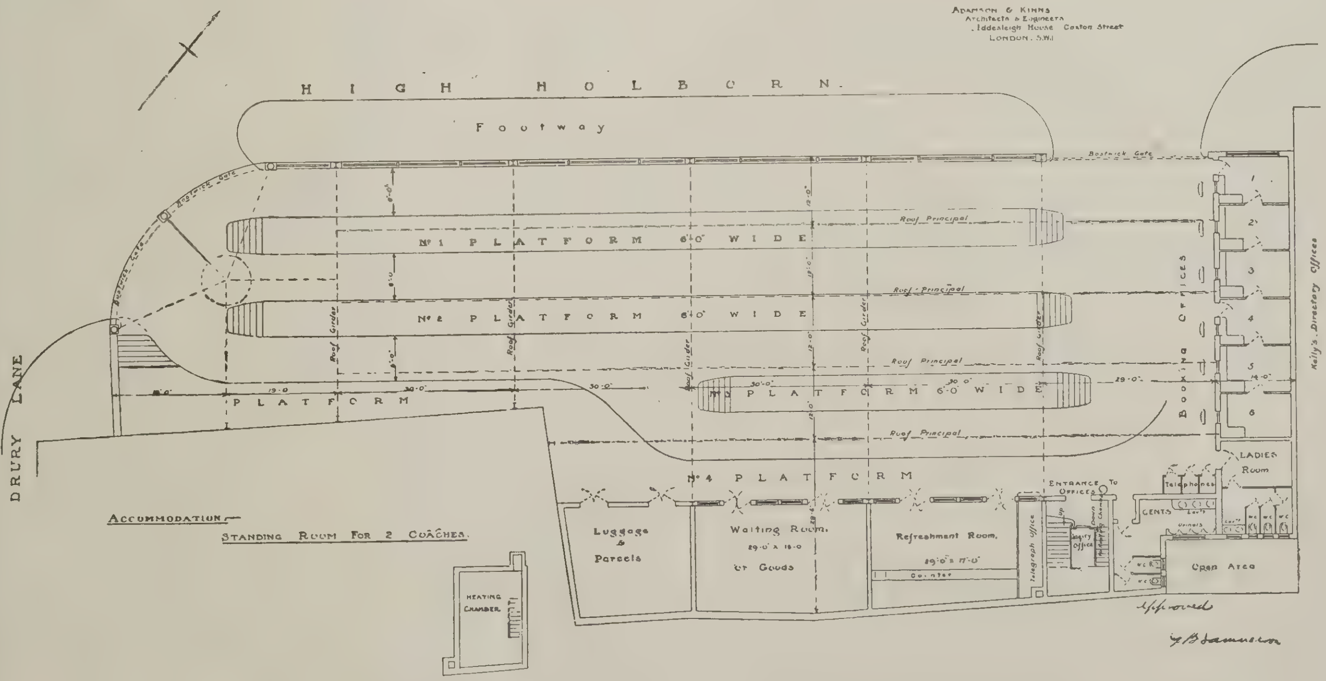
The first motor-coach station to be erected in this country is shortly to be built in London for Messrs. The Samuelson Transport Co., Ltd., from the designs of Messrs. Adamson and Kinns, architects. By an odd coincidence the site is that of the old White Hart Inn, St. Giles's, by old Aldwych Cross. The building will be on the lines of a railway station, providing three platforms, between which there will be accommodation for twenty-eight coaches. The motors will enter from High Holborn, pass between the platforms, and make their exit on the circular end of the site towards Broad Street, which has the advantage of being a wide road, fairly free from traffic. The elevation to High Holborn comprises dwarf walls, surmounted by a steel and glass front, with the gable ends of a series of 30 ft. roof principals showing. The purlins to the roof will be of steel, covered with corrugated asbestos sheeting, the construction generally being entirely fireproof. The accommodation provided comprises six booking offices, each for a different district, and luggage, waiting, and refreshment rooms, etc. The platforms will be of reinforced concrete on brick walls. Super cement will be used for platforms and track to ensure cleanliness and hard wear. The general contractors are The Westminster Building Company, of 180 Piccadilly, W.



ELEVATION TO HIGH HOLBORN.



UPPER FLOOR PLAN.



PLAN AT ROAD LEVEL.

NEW MOTOR COACH STATION FOR THE SAMUELSON TRANSPORT CO., HIGH HOLBORN, LONDON.
ADAMSON & KINNS, ARCHITECTS.

Architects at Cricket

The cricket match, played at Elstree, between the Society of Architects and the Architectural Association resulted in a win for the latter by 60 runs. The A.A. won the toss and elected to bat first. The batting at first displayed no great confidence, and when lunch was taken the A.A. had lost 4 wicket for 32 runs. The fifth wicket fell soon after lunch with the score at 59, but after this a prolonged stand was made by A. S. Knott and G. H. Crickmay, who put on 128 runs for the sixth wicket, and completely altered the complexion of the game. The Society's bowling went to pieces, and the bowlers could get no assistance from the hard pitch; the Society also lacked the services of a really fast bowler, all the bowling being medium to slow. Knott compiled a very good 109, giving two possible chances at the later stages of his innings. Crickmay scored a fine 56, giving no chance. The seventh wicket fell with the score at 173, and the remaining wickets added 20 runs. Apart from excellent wicket-keeping by Cumberlege, the Society's fielding was ragged, but this was partly owing to the heat and the bumpy outfield.

Cumberlege and Bennett opened the Society's innings, and at once commenced to score freely. After the first bowling change Cumberlege mis-timed a shot to leg, and was well caught by fine-leg fielding deep after scoring an attractive 24. Gainsford, who went in at the fall of the first wicket, never looked like scoring, and was bowled by his third ball. Board followed, and looked like settling down, when he had hard luck in being run out by a long throw-in from square-leg, which hit the stumps. Hubbard, who followed him, was quickly bowled. Bennett had bad luck in being bowled by Parker with a ball that bumped over his head and dropped on the stumps. He had compiled an attractive 41, and looked set for a century. Something like a rot had been setting in, 4 wickets falling for 19 runs. Capt. Kiddy tried hard to stop the rot, going in two hours before stumps were drawn, and staying at the wicket for an hour and a quarter to score 17, mostly singles. The A.A. bowlers were keeping an excellent length, and sending down very few loose balls. Kiddy received valuable assistance from Whitworth, but when the pair looked well set to play out time, the former was bowled by a short-pitched ball from Parker that shot into the stumps. The last wicket fell a quarter of an hour before time, with the score 128.

The game was very enjoyable, and it is hoped that a return will be fixed, probably early in September. The scores were as follows :—

THE ARCHITECTURAL ASSOCIATION.

A. S. Knott, b Hubbard	109
F. N. Young, b Pinfield	1
M. H. Nicholls, c and b Pinfield	1
H. Pakington, run out	0
G. E. McLeavy, c and b Dyche-Teague	4
J. K. Parker, b Hubbard	2
G. H. Crickmay, c and b Beard	56
R. A. Livett, b Hubbard	0
H. Donaldson, lbw, b Beard	4
B. Wallis, b Hubbard	1
S. B. Caulfield, not out	0
Extras—byes 8, leg byes 7	15
Total	193

THE SOCIETY OF ARCHITECTS.

B. S. Cumberlege, c Pakington, b Young	24
C. Bennett, b Parker	41
H. E. Gainsford, b Young	0
J. S. Beard (Capt) run out	7
P. W. Hubbard, b Parker	2
F. C. Dyche-Teague, b Young	4
Capt. M. G. Kiddy, b Parker	17
E. A. G. Pinfield, c Livett b Parker	0
H. Paul, b Parker	1
R. Whitworth, b Parker	16
A. Ray, not out	0
Extras—byes 15, leg byes 1	16
Total	128

BOWLING ANALYSIS.

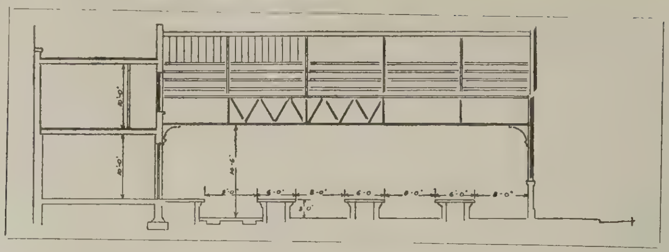
THE A.A.

	Overs.	Maidens.	Wickets.	Runs.	Average.
Hubbard	14	4	4	33	8.2
Pinfield	14	0	2	54	27
Kiddy	5	0	0	15	—
Ray	5	0	0	28	—
Dyche-Teague	5	0	1	35	35
Beard	5.4	0	2	10	5

THE SOCIETY OF ARCHITECTS.

	Overs.	Maidens.	Wickets.	Runs.	Average.
Young	16	2	3	31	10.3
Caulfield	2	0	0	17	—
Parker	12.1	1	6	58	9.8
Donaldson	4	2	0	7	—

A cricket match between the R.I.B.A. and the A.A. takes place to-day at Elstree, play beginning at 11 a.m. sharp. Lunch 2/6 and tea 1/- will be served on the ground.



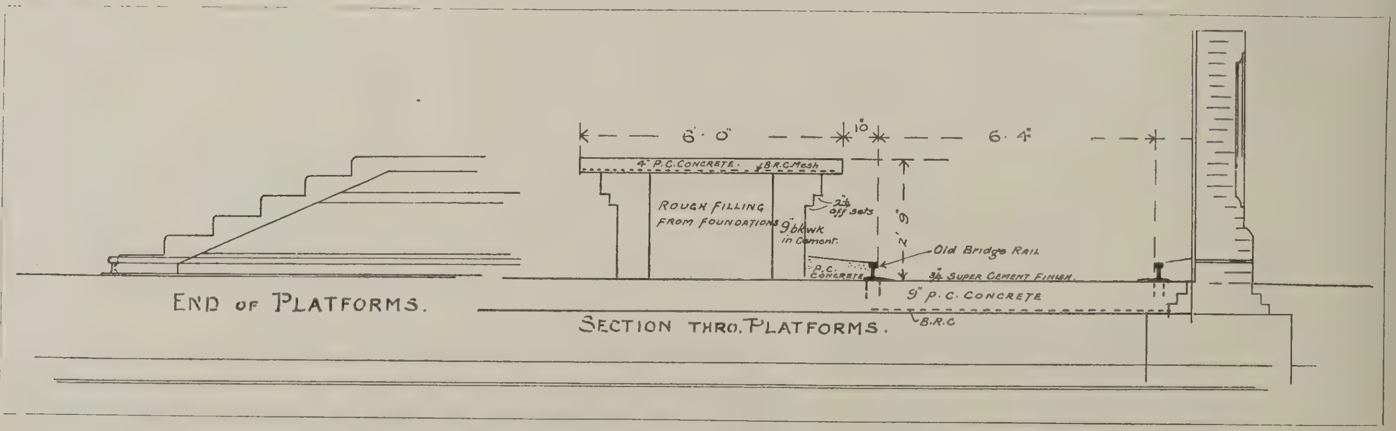
CROSS SECTION THROUGH MOTOR COACH STATION, HIGH HOLBORN.

New Dye Works at Perth

New buildings have been erected at Perth for the Perth Dye Works, and will be open in due course. Messrs. J. Pullar & Sons, Ltd., who own other large dye works in the town, have had the buildings planned on the most modern methods. Messrs. Smart and Stewart, architects, Perth, are responsible for the designs and carrying out of the work. Reinforced concrete is used throughout.

The main building is of three stories; each floor is 225 ft. long and 56 ft. wide, planned for the finishing, examining, and dispatching of various classes of work. Two electric lifts go the full height, and two spacious staircases also give communication to the different floors. The dyehouse is one story, and the laboratory, drying rooms, etc., are to the rear and south of the main building. On the roof of the main building there is a water-storage tank, of reinforced concrete, to contain 78,000 gallons of water.

The elevations are treated in a broad, simple, and dignified manner, with column beams, and main features in reinforced concrete, the panels filled in with warm red brick contrasting very effectively with the cement colour. In the two flank pediments and parapet wall is the name of the firm in raised terra-cotta lettering on a background of cement, the central pediment containing the Royal Arms. Large glazed steel sashes, with ample ventilating sections, have been adopted, and every precaution is taken for fire safeguards. The previous works on this site, owned by Messrs. P. and P. Campbell, were completely destroyed by fire. This new factory is planned on the latest lines of fire prevention, and also for labour economising. The works are equipped with the best plant and machinery, the architects having had the method of working placed before them.



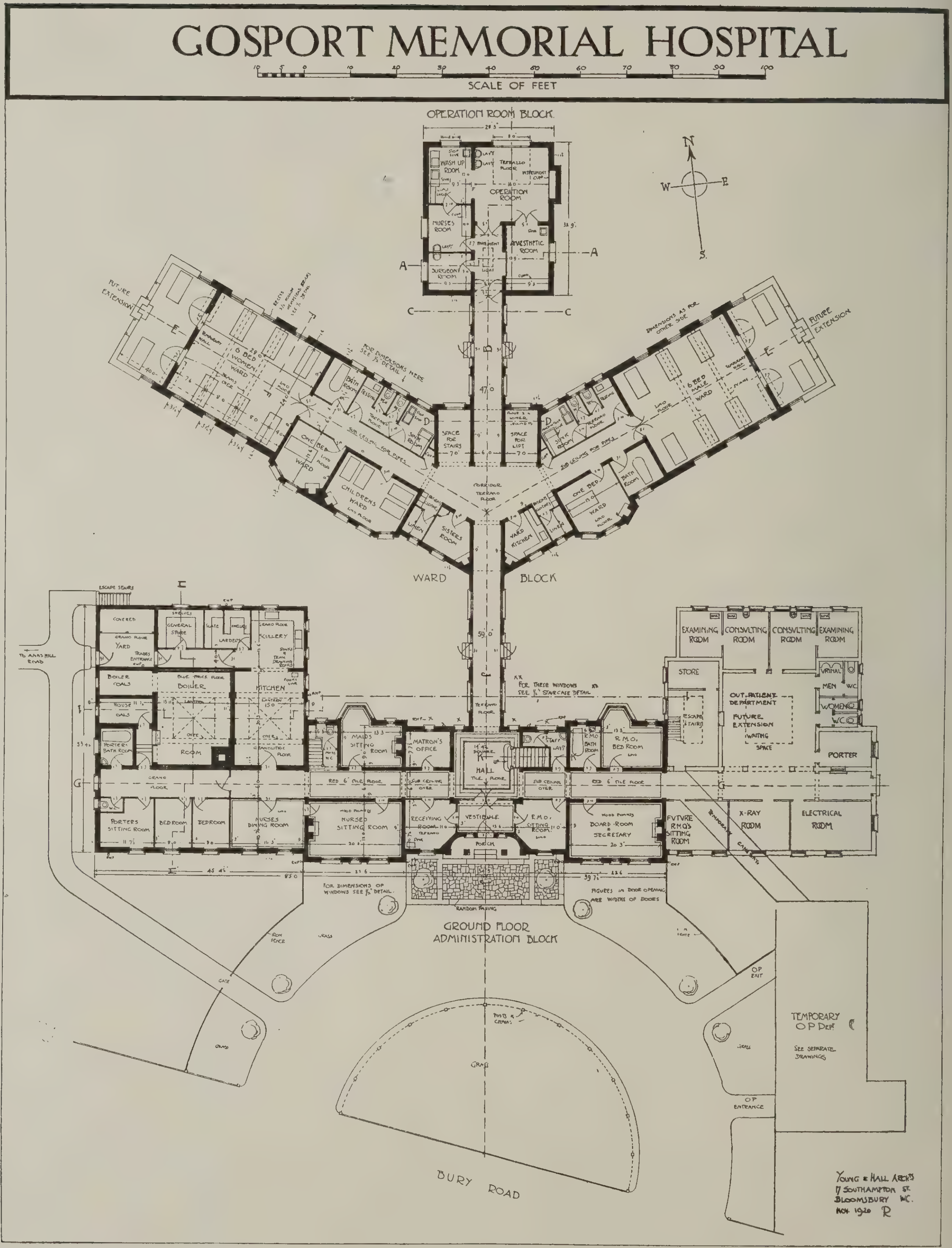
NEW MOTOR COACH STATION, HIGH HOLBORN: DETAILS OF PLATFORMS.

(See preceding page.)

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Current Architecture. 93.—

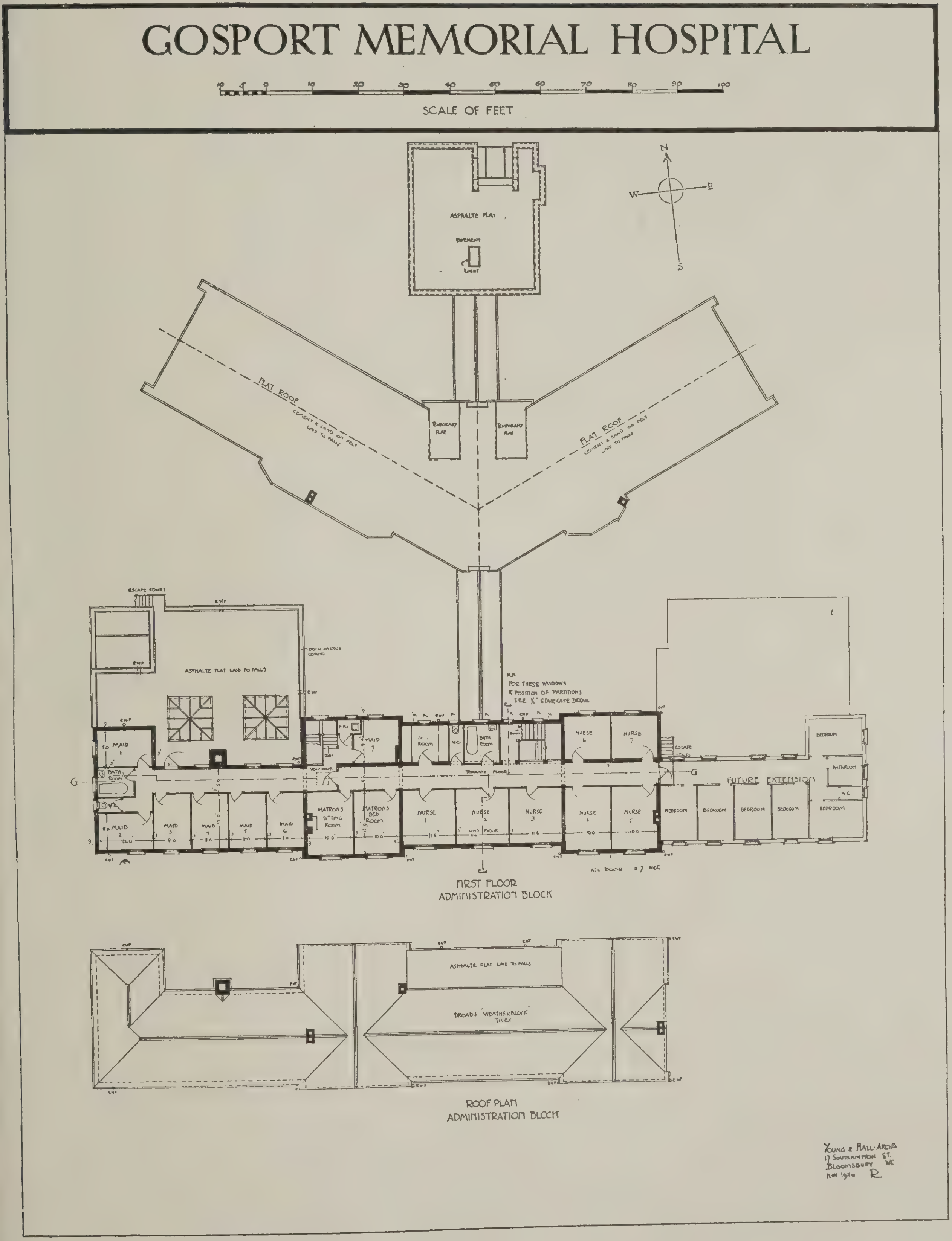
Young and



This hospital (the foundation stone of which is to be laid on July 3)
patients had to be limited for the present by the funds available. It wa
rooms over, shown in outline on the accompanying plans on the east
carried on in a temporary building connected by a corridor to t

rt Memorial Hospital : Plans.

, Architects



signed for a total of forty beds, but the accommodation for staff and ided to leave out the permanent out-patient department and the nurses' f the administrative block, and the work of this department will be spital. Further particulars are given in an article on page 806.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Royal Sanitary Institute Folkestone Congress

The Thirty-second Congress of the Royal Sanitary Institute was held at Folkestone from June 20 to June 25, when a great variety of interesting addresses were delivered by various prominent specialists. Below we reproduce extracts from some of the papers in the Engineering and Architecture Section

Designing a New Township for 120,000 Inhabitants

BY G. TOPHAM FORREST, F.R.I.B.A., F.R.S.E., F.G.S. M.R.SAN.I.*

In connection with the Government's post-war housing scheme, the London County Council gave exhaustive consideration to the question of the housing needs of London as a whole, and formulated a comprehensive programme embracing: (1) The development of existing estates; (2) The acquisition and development of new estates; (3) The clearance of insanitary areas and the rehousing of the displaced population. The greatest need was in the eastern part of the county, and it was decided, therefore, to purchase a new estate eastward of London.

The Council, with the approval of the Ministry of Health, acquired a tract of land now known as "Becontree," extending for two and a quarter miles eastward of the developed portions of Ilford and Barking towards Becontree Heath and the village of Dagenham, and about two and a half miles between Chadwell Heath in the north and the Ripple Road in the south. It was proposed to develop this area, comprising nearly 2,800 acres of fairly flat agricultural land, into a new township with a population of about 120,000, and to endeavour to complete the scheme within a period of about five years.

Even in pre-war days, when there was a plethora of both labour and materials, and when it was possible to build without financial loss, such a proposal would have presented many difficulties. But under post-war conditions, not only are these difficulties intensified, but others, no less serious, present themselves, particularly in regard to the paucity of skilled labour and building materials. Although recently there has been a slight improvement, it cannot be anticipated that during the next four or five years there will be any approximation to pre-war conditions.

In view of the difficulties and of the fact that a time limit was imposed in regard to the completion of the State-aided houses on the Estate, it was essential to proceed immediately with the preparation of the lay-out plan, and certain governing conditions in relation to the design of the township were formulated.

After dealing with the conditions governing the design, the design itself, and the work now in progress on the first section of the Estate, Mr. Topham Forrest said: The difficulties which have been experienced are no greater than were anticipated, and have been reduced to a minimum. That they have been so reduced is, I am convinced, due to the fact that the London County Council decided to place the whole of the work in the hands of one "master contractor."

I am of opinion that very substantial advantages accrue from the appointment of one controlling organization on an estate of this kind. These advantages might be summarized as follows:—

(i.) Final instructions can be given to one contractor solely responsible for carrying them out to the satisfaction of the local authority, and the great difficulties which would be experienced in dealing with a number of contractors are thus avoided.

(ii.) Materials in large quantities can be purchased, thus making for economy.

(iii.) The proper distribution of materials is assured.

(iv.) Effective control in regard to entry and distribution of all goods is practicable.

(v.) Labour difficulties are more likely to be reduced to a minimum.

(vi.) More effective recruitment and apportionment of all labour is secured.

(vii.) Dealings with local and county authorities, police, railway, and other officials are simplified.

The appointment of a Master Contractor was in accordance with precedents created by the Government during the war under conditions of extreme urgency, and in the case of the Becontree Housing Estate it was considered that one controlling influence was just as necessary for the completion of the programme within the time stipulated as it was in the actual military operations during the later and successful period of the war.

The Design of Hospitals

BY EDWIN T. HALL, F.R.I.B.A.

General hospitals properly belong to towns, to dense populations, and so must be in or near to the large aggregations of individuals whom they serve, both for the convenience of patients and for ready accessibility by the honorary medical staff practising in the town, so as to secure the attendance of the highest talent and experience.

Where site permits, the axis of a ward should preferably be north and south with windows east, south, and west, by which means the sun from rising to setting shines upon every window and wall.

Main wards most generally contain from eighteen to twenty-four beds, but there should be attached one single or two-bed ward, and, of course, the accessories of ward kitchen, sanitary annexes, stores for linen, patients' clothes, etc.

Of the area and cubic space per bed much has been written and said. The late war has demonstrated that the old standards are in excess of what is absolutely necessary, and that the standard of the Ministry of Health for Poor Law infirmaries is sufficient as a minimum for curative treatment, but I think 8 ft. wall space should be given to a bed and about 100 super. ft.

Where there is a medical school a larger area is required to enable students to congregate near a case, and a 9 ft. to 10 ft. wall space is usually allowed, with a floor area of 117 to 135 ft.

In addition to the broad divisions of medical and surgical wards, there should be special wards for diseases of women and of children, for eye, ears, and nose cases, and in manufacturing districts for burns, and ample accommodation for casualties.

The disposition of operating theatres is one on which surgeons differ. In some large hospitals theatres are all concentrated with their accessory rooms in one block; in others, as at Manchester, the wards are grouped in units, each under a senior surgeon, with its detached self-contained operating suite consisting of seven rooms.

There should be an isolation block for suspected cases of infection.

The out-patients' department is of great and growing importance. It should be detached, but with convenient access to the main buildings, for ready transference of patients. This should contain, in addition to medical and surgical consulting rooms, with their dressing and examination rooms, rooms for dentists and oculists, for child welfare work, for maternity, for lectures to women on home hygiene, and for the almoner.

Except in very large hospitals, the dispensary should be arranged so that it may serve the in-patients as well.

The treatment of venereal diseases, both for in and out-patients, should be in a separate building near the in-patients' wards, for it is found in practice that visitors to patients are shy of going to these venereal wards if they are conspicuously set apart from the rest of the buildings.

X-ray work has so developed that provision must be made for this, and where one centre is alone justified, this should be conveniently placed both for in and out-patients. In a large hospital, electrical treatment on an extensive scale should be provided for. Medical baths are again of growing use, and in the late war were in extensive request. Another desirable feature in an ideal hospital is the surgical therapeutic room or gymnasium, and one of the best I know is that at Nuremberg.

A laundry with patients' and staff sides should be provided, as well as a disinfector for bedding and clothes, and a destructor for dust. Workshops, boiler and engine-house should give accommodation where necessary for the generation of electricity, for central calorifiers both for heating and hot-water supplies, whence all buildings may be served.

The mortuary building, with its post-mortem room and mortuary chapel, should be so placed that hearses shall not be seen by the patients. There should be a cold-storage room for corpses, and refrigerated larder for meat and milk.

In hospitals with medical schools and hostels many other departments are required, but the details of these are outside the scope of this lecture.

In every hospital a chapel for divine service should be provided.

---

* Mr. Topham Forrest is Superintending Architect of Metropolitan Buildings and Architect to the London County Council.

Lighting should be by electricity, heating generally by hot water (with an open fire in each ward for cheerfulness), but in the operating theatres by steam so as quickly to raise temperature.

Ventilation should be by fresh air passing over the radiators so as to change the atmosphere of a ward continuously to the extent of at least three times an hour.

Corridors between pavilions, I think, should be open at the side for through aeration. In Germany they have generally no covered ways at all, which I think is wrong.

There should be separate homes for the nursing and domestic staffs, male and female. Their dining-rooms should be grouped near the general hospital kitchen, but otherwise the homes should be so placed that when the staff is off duty there may be pleasant prospects for all. Recreation courts for tennis, etc., should be provided. The resident medical staff may be housed in the administration building, which, with its offices, board and committee rooms, should be readily accessible to the public.

The number of cases of scarlet fever and diphtheria is so great that reference should be made to the special hospitals for these complaints.

The general principles governing all hospitals apply to these, but for infectious diseases more isolation from the community is necessary. The Ministry of Health require a zone 40 ft. wide between the boundaries of the site and the patients' buildings in all scarlet fever and diphtheria cases, but a wider one is better. In smallpox, a zone of a quarter of a mile is required, and this from all the evidence obtained is desirable. There should be entire separation of wards for scarlet fever from those for diphtheria, and neither of these should be in the same curtilage as smallpox wards. In these hospitals there should be isolation pavilions to provide accommodation for nearly 10 per cent. of the total patients, so that other and alien infectious diseases may be segregated. At Nottingham, under its distinguished Medical Officer, Dr. Boobbyer, infectious cases are successfully treated in the open air in verandahs.

There should be receiving-rooms for examination of patients. The area per bed should be greater, and the number of diphtheria patients in one ward should be less than in a general hospital, as more nursing is required.

One theatre suite is sufficient for each hospital.

Provision should be made for the destruction of badly infected articles and for the sterilization of sewage.

Communal Heating and Hot Water Supply

BY JOHN A. MACINTYRE, B.SC., M.INST.C.E.

This paper dealt in a general way with central-station heating, pointing out that there were already large installations in this country in which large factories covering wide areas were warmed and supplied with hot water from a central source. There was no difficulty in the design of an installation which would be suitable for large communities of dwelling-houses, but it was pointed out that the cost of installing the outside mains and the losses in these outside mains make the system very expensive.

The author suggested as an alternative to the usual design of garden cities the building of large blocks of flats containing hundreds of dwellings in the open country surrounded by land over which the residents have communal or individual rights. Such blocks of residences could be warmed quite economically from a central source, and the residents could enjoy other communal advantages such as a central dining-room, gymnasium, laundry, etc.

The design of central stations was discussed, and the advantages of combining gas, electricity, and heat-generating stations were pointed out.

Domestic Sanitation and its Cost

BY LOUIS HANKS, A.R.SAN.I.

The sanitation of a small house is a big item. It costs as much for the drains, water, and stoves to-day as a whole house could be built for not many years ago. To get down to bedrock, I give the facts of actual out of pocket costs, without trading expenses, or any profit. The bungalows and houses from which these illustrations are given are mostly on the north Kent coast.

A bungalow contains three bedrooms, parlour, kitchen living-room, bathroom, w.c., larder, store cupboard, and coal cellar. About 150 ft. of 4 in, stoneware drain (with two manholes) connect with the sewer, which is in an accommodation way at rear of site. Water and gas mains are in the front roadway. The prime cost of drainage was £52. The plumbing consists of a 3½ in. heavy cast-iron vent pipe to drain, a 50-gallon cold cistern, a hot-water circulating tank, and the requisite mains, services, and fixing of the various fittings, also running gas-cooking service to kitchen. The cost of pipes and cisterns was £35 for materials, and £25 for plumbers' labour and solder. Bath, basin, and sink, with their fittings, w.c. set, a 36 in. bungalow range with high-pressure boiler, and a sheet-iron copper cost £40. Stoves for parlour and bedroom cost £16. Total, £168 prime cost. This does not include bricklayers' or carpenters' work, nor charges of water or gas companies, which would bring the cost up to £200. It may be noted that such a range and boiler cost, in 1914 £4 7s., now £16. The iron vent-pipe for drain cost 2s. 7d. per yard in 1914, and now 10s. 11d.

Two-story houses.—I have built several houses with four bedrooms, bathroom, and w.c. and basin on the upper floor, and with parlour, living-room, scullery, w.c., larder, and large hall on ground floor. One of these, compact but of small size, erected at Tankerton last year, cost £169 prime cost for its sanitation, including range, boiler, hot-water system.

Bungalow sanitation is, on the whole, cheaper than that of two-story houses, although the cost of drainage is almost the same for either type. Gas appliances for cooking, hot-water service, and heating, are cheaper to instal, cheaper to run, more cleanly and labour-saving in use, and do not pollute the atmosphere as do wasteful, dirty, and work-making coal fires. Ventilation must, however, be provided, to remove the products of combustion and the air polluted by human beings. Therefore, either a fireplace chimney or a special upcast flue is a necessity in every room, for gas or central heating as much as for coal.

Gosport Memorial Hospital

On Sunday, July 3, Field Marshal Earl Haig will lay the foundation stone of the new war memorial hospital which is being erected from the designs of Messrs. Young and Hall, architects, on a site just outside Gosport. The site is a good, open, level, corner one, directly approached from Gosport by a main tram route, and the general aspect is north and south.

The hospital is designed for a total of forty beds, but the accommodation for staff and patients had to be limited for the present by the funds available. It was decided to leave out the permanent out-patient department and the nurses' rooms over, shown in outline on the plans (see pp. 802-3) on the east wing of the administrative block, and the work of this department will be carried on in a temporary building connected by a corridor to the hospital.

The plans show the general disposition of the various departments. The administrative block is a long, narrow building, giving the maximum number of rooms facing south, and the kitchen and boiler-room blocks are on the west side corresponding to the out-patient department. The "Y"-shaped planning of the wards has been adopted in order to save long corridors, and to give as nearly as possible the correct north and south aspect. The details of the ward unit do not vary much from the usual type, with the exception of the sanitary offices, which are planned on the same lines as those successfully adopted at the Chelsea Hospital for Women.

Present accommodation is provided for seven beds for women, seven for men, and four cots for children, all on the ground floor. Future extension will be by adding four more beds to each long ward and building a duplicate second story, a lift and staircase being added in the angles provided for them.

At the northern end of main corridor, and accessible from both wards, is the operation-room suite, cut off from the rest of the hospital by swing doors, and giving adequate accommodation for its purpose. A direct north light is obtained for the operation-room.

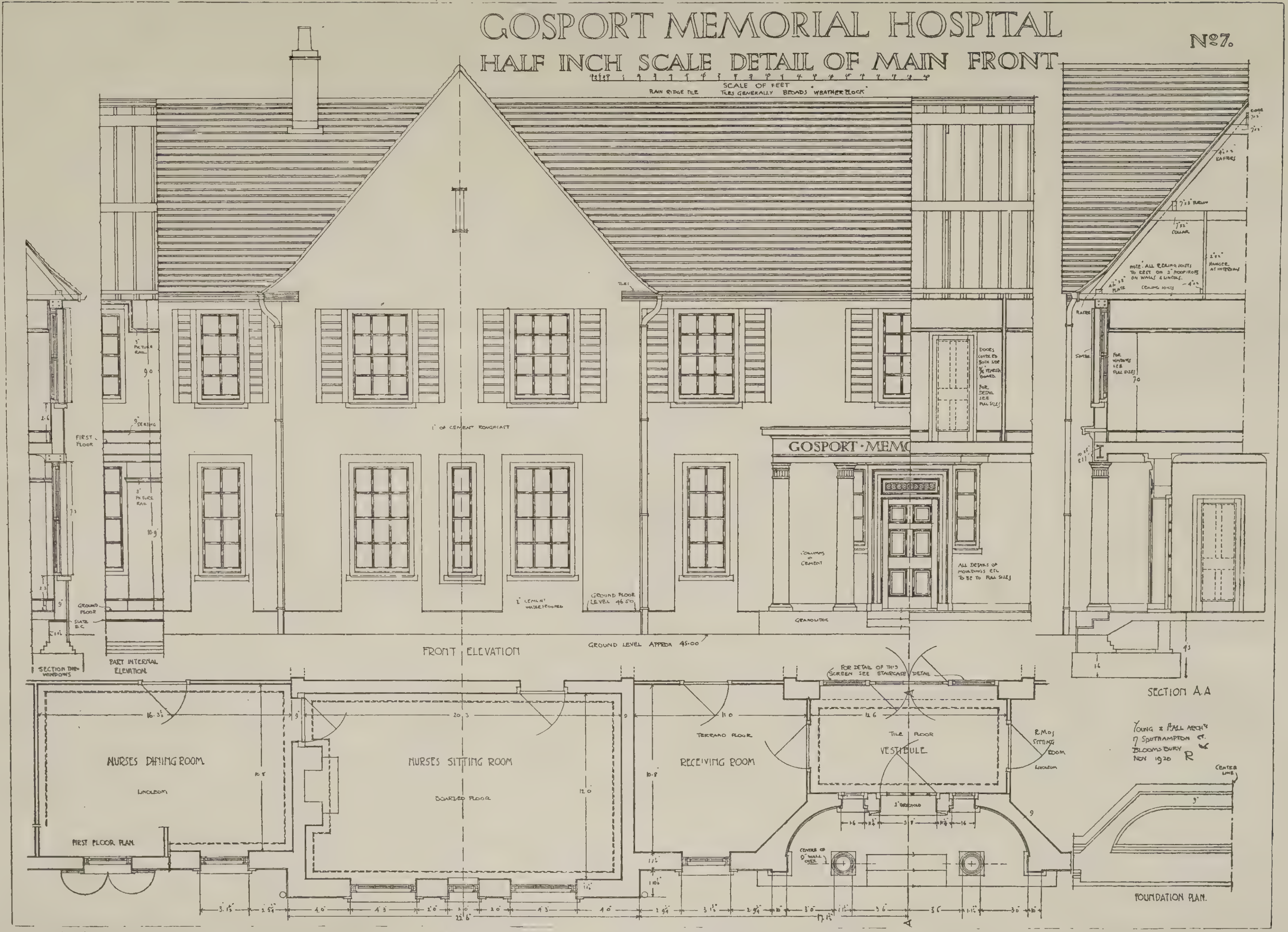
Internally the building will be of the very simplest type, everything being done to reduce work and upkeep cost. All woodwork will be stained and varnished, and finished flush with plaster, the joints being covered with a linen strip 1½ in. wide. Doors are of three-ply Venesta in large panels let in flush with the stiles, giving a ledgeless door. The furniture for these will be the new "celluloid on metal" knob handles.

All pipework is carried in the sub-ceiling space of the corridors, the usual method of a pipe trench under the ground floor being found impossible, owing to water. The walls are built hollow, and externally are to be treated with rough-cast and Portland cement finishings. Broad's red "weather block" tiles are to be used for roofing. The contractor is Mr. John Hunt, of Gosport, the present contract price being £25,305.

The whole of the floors and the flat roof are being carried out by the Fawcett Construction Co., Ltd., on their Mon'lith-crete system of construction.

Current Architecture. 94.—Gosport Memorial Hospital: Detail of Main Front.

Young and Hall, Architects.



The foundation stone of this new hospital is to be laid by Field Marshal Earl Haig on July 3. The walls are to be built hollow, and treated externally with rough-cast and Portland cement finishings. The roof will be covered with red tiles. Further particulars are given on page 806.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Correspondence

Office Experience for Students

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I regret to see that a correspondent has raised objection to the proposal have made to repeat the successful arrangements of last year for providing ex-Service students with office experience during the long vacation. The objections raised by your correspondent certainly never occurred to me, and in any case do not apply for the following reasons :—

1. Men still in training obviously cannot do the responsible work required from an assistant who is able to command a salary sufficient for the needs of a wife and family.

2. An architect who has enough work to justify an additional assistant will not take a man for four or five weeks, and then, when he returns to the school, replace him with the permanent assistant he might have engaged a month earlier. The reasons for this are so obvious that they do not need enumeration.

3. Even for the temporary appointments given to the students small amounts are generally paid to cover expenses, etc., according to the value of the student to the architect who employs him.

4. The sacrifices made by ex-Service men, and the very severe professional handicap of four or five years in the Army at an important age, should be sufficient justification for some small sacrifice upon the part of others, if it were necessary, which, as I have shown, is not the case.

T. P. BENNETT,
Head of the Dept. of Architecture, Surveying, and Building, Northern Polytechnic.

Unification and Registration Committee.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—A letter appears in the professional press, signed by Mr. A. W. S. Cross and others, who appear to be in doubt as to the intentions of the Unification Committee with regard to registration. It appears to me that the best way of putting their minds at rest is to ask them to read the published report again. It is clearly set out in that report that one of the objects of the scheme, whether under heading A or B, is Statutory Registration. Again, in Scheme A (II) it is proposed that the R.I.B.A. shall present to Parliament a Registration Bill, and shall prosecute the Bill with vigour until it becomes an Act of Parliament. Similar words appear in Scheme B.

Then, in the Summary of the Report, par. 7, it is pointed out that the scheme provides for registration by Act of Parliament, and in Section 3 it is suggested that the twelve months' notice of intention to bring in a Bill should not be wasted, but that the details of the Bill should be settled during that time.

The whole of par. 8 is devoted to the Registration Bill, and it gives particulars about the Dental Bill.

In face of these facts it is difficult to see why the signatories should say "up to the present the Committee make no recommendation for dealing with the second subject referred to them," i.e. registration.

Neither is it correct to say that the Committee resolves "that all architects should be allowed to become members of the R.I.B.A." : it is particularly stated that the invitation should go to all architects who are *qualified*, and, further, that these architects should enter the class for which they are qualified.

Surely nothing can be clearer.

ARTHUR KEEN,
Hon. Secretary, R.I.B.A.

Law Reports

Heavy Claim by Architect and Surveyor.

Sharp v. Elkin, Son and Percival, Ltd.
June 14. King's Bench Division.
Before Sir Arthur Channell.

This was an action by Mr. Robert Sharp, architect and surveyor, of Victoria Street, Westminster, and Griffiths Street, Wimbledon, against Elkin, Son and Percival, Ltd., Sheep Street, Wellingborough, claiming £3,706 16s. 9d., for fees as architect and surveyor in connection with the erection of a proposed boot and shoe factory at Wellingborough. The defence was that defendants did not agree with or engage or employ plaintiff as he alleged, or at all, and did not authorize anyone to do so. They admitted none of the allegations contained in plaintiff's statement of claim.

Mr. B. Cohen, K.C., for plaintiff, said he could prove from the correspondence that the contract for the plaintiff to do the work was made with two managing directors of the defendant company. He was to be architect and surveyor for building a factory for defendants, who were boot manufacturers of Wellingborough. The managing directors of the defendant company were Mr. Harry Percival and Mr. Herbert Hill. Plaintiff was definitely appointed architect in connection with the proposed factory on July 3, 1919. Plaintiff was introduced to Mr. Hill by Mr. Evans. Mr. Hill said to plaintiff : "We shall want your services to prepare plans and estimates. We shall want a modern factory, to turn out 10,000 pairs of boots weekly, and a housing scheme for the work people." Plaintiff said he would want some technical details, and it was arranged that he should go to see a gentleman at Leicester, who was an expert. On July 2 he went to Leicester, and saw Mr. Hill and Mr. Percival, and on that day or the following day Mr. Percival instructed plaintiff to prepare the plans. Nothing was said about fees, and plaintiff assumed he would be paid on the usual scale. The factory had not been put up. For some reason the company had abandoned the scheme, but the whole of the work had been done so far as it could be done by plaintiff.

Mr. Disturnal, for the defence, said the scheme was to go to the public with a new company called the Graded Shoe Company, with a large capital. For the purposes of getting out the prospectus of the new company Mr. Sharp was introduced to Mr. Hill by Mr. Evans. At the interview on June 23 Mr. Hill explained the whole matter to Mr. Sharp, showed him a copy of the prospectus, and Mr. Sharp fully understood that the whole thing was in the nature of a speculation in which he was asked to join Mr. Hill and Mr. Percival, and out of which they would probably get a large profit. Mr. Sharp was asked if he would give his professional services in connection with the flotation of the company, his payment depending on the success which attended the flotation of the company, and he agreed to do so.

His Lordship, in giving judgment, said he could not entertain any doubt that plaintiff was employed to prepare plans for a new factory and act as architect for the company. The questions were what were the terms on which plaintiff was employed by Mr. Hill, and whether Mr. Hill acted for the defendant company. His Lordship considered it a fact that Mr. Hill was engaging a man for the defendant company. He did not think Mr. Hill ever made it clear to plaintiff, at any rate, at the earlier interviews, that he was doing the work on a speculative basis. The other members of the board no doubt thought Mr. Hill was protecting them by making a bargain with plaintiff on a speculative basis. But that did not protect them because it did not affect Mr. Hill's authority to act as a managing director. The defendant company were promoting a new company, and, as promoters, had incurred this liability to plaintiff, though they might have done so inadvertently. The result was that, though it was a little hard on the company by trusting Mr. Hill, and possibly through Mr. Hill trusting Mr. Evans, they had let themselves in for a considerable liability. There must be judgment for plaintiff, and the question was for what amount ? His Lordship disallowed the claim for fees of quantity surveyor, and awarded him £1,062 12s. 2d., with costs. His Lordship granted stay of execution pending appeal.

A Liverpool Compensation Case

Some important points of particular interest to the architectural profession were raised in a compensation case which has been settled at Liverpool. It appeared that the Liverpool Corporation prescribed the building line in Moss Lane, Walton, in order to widen the road. Mr. W. Hutchinson was the owner of the Cleveland House Estate, plans showing the laying out of which had been sent to the city building surveyor by Mr. J. H. McGovern, Licentiate R.I.B.A., of Hampden Buildings, 11a South Castle Street, Liverpool, architect and surveyor. The land was wedge-shape in form, consequently it could not be laid out successfully when the front shops were moved backwards, and would give a vista of their rear yards.

No notice was taken in respect of the plans till the architect wrote to the surveyor stating that under the Public Health Act 1875, they should have been approved or disapproved in a month's time. The surveyor said that they would proceed to take the land under the Liverpool Improvement (Additional Powers) Act 1908, and referred the architect to the city engineer, who said that the Corporation would take the land under the Liverpool Improvement Act 1867, which was not so drastic in its operation.

The architect threatened to commence building after giving a day's notice. The building line was then immediately prescribed by the Health Committee, with a condition, viz.: "That compensation was not to be paid till the Corporation required the land for street widening, or until the owner had built up to the prescribed line." The said Act only gave them power to prescribe the line, and not to attach any condition, and referred to the Lands Clauses Consolidation Act 1845 for the purpose of assessing compensation.

The owner, not being able to get the Corporation to make a satisfactory move, appointed Mr. J. H. McGovern to act as his arbitrator, and gave the Corporation fourteen days' notice to appoint one on their behalf, failing which he would appoint one for them, under the Lands Clauses Consolidation Act 1845.

The Corporation went to the local Chancery Court to restrain the claimant doing so, and to take the opinion of the Court as to whether the Compensation Act 1919 applied or not. Ultimately the Corporation agreed to settle the matter by paying £1,300 for the land (1,900 sq. yds.) and the claimants' costs. Messrs. Syers, Dixon, and Barrell, solicitors, acted for Mr. Hutchinson, and instructed Mr. Glover, barrister at law, who appeared at the Court. The deputy town clerk instructed Mr. Mathers, barrister at law, who appeared for the Corporation (whilst Mr. McGovern, architect, appeared for the claimant, and Mr. Jenkins, corporation surveyor, for the Corporation, at the recent final settlement).

Latest List of New Inventions

Latest Patent Applications.

15771.—Brown, T. A.—Steel frame construction for hollow wall buildings. June 8.

16091.—Clifton-Ewart Construction Co., Ltd.—Building constructions. June 10.

16056.—Hellingham, C.—Building. June 10.

15839.—Jefferies, A. F.—Scaffolding and staging for buildings, etc. June 8.

15953.—Meredith, E.—Building blocks, etc. June 9.

Specifications Published.

164109.—Abbot, J., and Shaw, S. P.—Constructing of reinforced concrete walls, partitions, and the like.

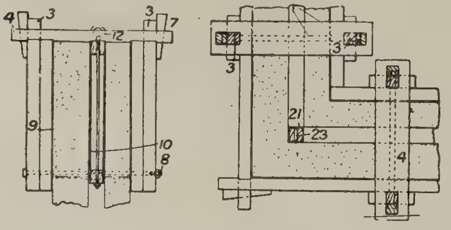
164121.—Stark, J. D. W.—Method of erecting walls or buildings and means for use therefor.

164125.—Smith, M. M.—Pre-cast building blocks, beams, piers, or like members.

164233.—Adams, A. S.—Cement, concrete, and the like slabs and blocks.

Abstract Published.

162170.—Moulding walls in situ.—Pattinson, R., Southfields, Ruskington, Lincolnshire.—Shuttering for use in concrete wall constructions is formed in sections with metal linings 9 and with battens 3 formed with tenons to engage mortises in stretchers 4 which are recessed to engage the tops of the moulding boards and the core piece. Wedges 7 serve to secure the parts together, and bolts 8 press the centering against the completed part of the wall. The core is formed hollow of a wooden frame with metal plates 10 tapered in section and at the ends to facilitate withdrawal, swivel bolts 12 being also provided for this purpose. For corners the outer shuttering is prolonged at the ends and secured by mortises and tenons and wedges, and a wedge bar 21 provided with a swivel bolt 23 is used to fill in the gap between the core sections meeting at the corner. The body of the wall may be provided with a layer of wire reinforcement or other wire reinforcement may be used at intervals.



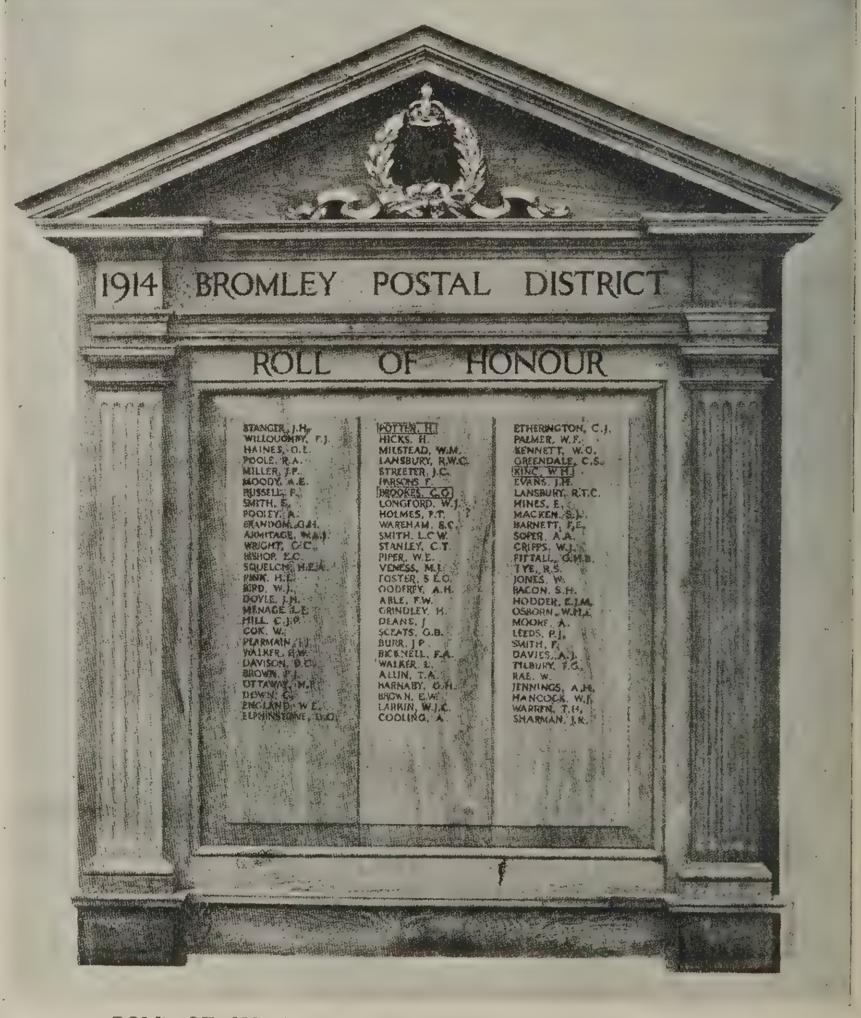
The above particulars are specially prepared by Messrs. Rayner & Co., Regd. Patent Agents, of 5 Chancery Lane, London, from whom readers of this journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the sum of 1/- each.

Housing in Scotland

The following figures show the progress that has been made in State-aided housing schemes in Scotland to May 31, 1921: permanent houses completed, 2,127; temporary houses completed, 493; reconstruction houses completed, 67. Total, 2,687. Of the 2,127 permanent houses completed 441 have been built by private persons under the private subsidy scheme, and subsidies to the total amount of £107,523 have been paid by the Scottish Board of Health in respect of these. There are, in addition to completed houses, 12,007 houses under construction.

Roll of Honour Tablet at Bromley

This Roll of Honour Tablet was fixed during the War in the Public Office of the General Post Office at Bromley, Kent, so that the citizens might know the names of the postal servants who were serving in the forces. The names were incised on oak boards; those of the men who were killed being filled in with red. The tablet was made of English oak by Messrs. Thomas Crossley and Sons, Builders, of Bromley, and the carving executed by Miss Simpson, also of Bromley. The tablet was designed by Mr. C. H. B. Quennell, F.R.I.B.A.



ROLL OF HONOUR TABLET IN BROMLEY POST OFFICE, DESIGNED BY C. H. B. QUENNELL, F.R.I.B.A.

Competitions Open

New Hospital Buildings at Cairo.

New Buildings of Qasr el' Aini Hospital and School. Accommodation 1,225 beds. Assessor, Mr. John W. Simpson, P.R.I.B.A. Apply, enclosing cheque or draft for three Egyptian pounds, or its equivalent in sterling, to the Secretary, R.I.B.A., 9 Conduit Street, London, W.1 (see our issue for April 20, 1921). Closing date for preliminary competition, October 3.

North Wales Heroes' Memorial.

Memorial, in the form of a building, with sculpture as a feature, to be erected in the grounds of the University College, Bangor. Total cost, £15,000. Prize, £100. Apply the General Secretary, Royal National Eisteddfod of Wales, Carnarvon. The President of the R.I.B.A., Mr. John W. Simpson, has nominated Mr. Gilbert Scott, A.R.A., F.R.I.B.A., as assessor in conjunction with Lord Plymouth. Closing date, July 23.

Wolverhampton War Memorial.

War Memorial adjoining St. Peter's Collegiate Church. Premiums, 150 gs., 100 gs., and 50 gs. Assessor, Mr. John W. Simpson, P.R.I.B.A. Apply Mr. F. E. Warbreck Howell, Town Clerk, Wolverhampton. Closing date, August 13.

Birmingham Hall of Memory.

The War Memorial Committee have decided to invite designs from local architects for a Hall of Memory, to be erected at a cost not exceeding £30,000 at the corner of Broad Street and Easy Row. The assessor is Sir Reginald Blomfield, R.A., and premiums of £500, £300, and £200 will be awarded for the designs placed first, second, and third respectively. The competitors must have occupied offices in Birmingham for the past six months. Designs are to be sent in before the first week in October.

Wandsworth Park.

The Council of the Metropolitan Borough of Wandsworth invite landscape architects and gardeners to submit competitive schemes for laying out, for the purposes of a park and recreation ground, about 31 acres of land situate between Garratt Lane and Buckhold Road, Wandsworth. Apply the Borough Engineer, Mr. P. Dodd, M.Inst.C.E., 215 Balham High Road, S.W. 17. Deposit one guinea. Closing date, 5 September. Premiums 100 guineas and 50 guineas respectively to the authors of the schemes placed first and second by the Council.

Competition Awards

Halifax War Memorial.

The designs of Mr. H. Scott Davies, of South Yardley, Birmingham, and Mr. Newbury A. Trent, of 1 Bedford Street, Chelsea, S.W., have been accepted by the Halifax War Memorial Committee as of equal merit. The two premiums offered (£25 and £10) will be divided between them.

Camberley War Memorial.

For the war memorial at the Royal Staff College, Camberley, the design of Mr. A. C. Martin, F.R.I.B.A., has been accepted.

Presentation of the Royal Gold Medal

At the Royal Institute of British Architects last week, Mr. John W. Simpson, President, invested Sir Edwin Lutyens with the Royal Gold Medal, given annually by the King to a distinguished architect. Before the investiture, Sir Edwin and Lady Lutyens were entertained at a dinner given by the Council.

Mr. Simpson said that the genius of Sir Edwin Lutyens had brought him into great prominence, and they were grateful to him for the way in which he had demonstrated the supremacy of the art of architecture. It was therefore natural that the Institute should agree to nominate him to the King as worthy to receive the Gold Medal which his Majesty gave for the advancement of architecture. No other body of architects in the world had the privilege of bestowing so great an honour. The members of the Institute had been entrusted since 1848 with the duty of submitting to the Throne the name of any architect who, by the excellence of his work, they deemed worthy of special distinction. In his (the speaker's) opinion the Cenotaph was Sir Edwin's greatest conception.

Sir Edwin Lutyens briefly returned thanks, and said that the honour done him overwhelmed him, and he could not find words to express his gratitude.

Enquiries Answered

Books on Quarrying.

F. Beagold writes: "I would like information regarding a thoroughly up-to-date book dealing with quarrying and stone-working machinery."

—Suitable books on the subject are as follows: "Stone-working Machinery." By M. Powis Ball, A.M.I.C.E. (Crosby Lockwood and Son. Price 10s. 6d.) "Practical Stone Quarrying." By Allan Greenwell, A.M.I.C.E., and J. Vincent Elsden, D.Sc.(Lond.), F.G.S. (Crosby Lockwood and Son. Price 15s.) "Stones and Quarries." By J. Allen Howe, O.B.E., B.Sc. (Sir Isaac Pitman and Son, Ltd.) Price 3s.) Any of these books may be obtained through Technical Journals, Ltd., 27–29 Tothill Street, London, S.W.1.

Stopping Holes in Oolite Stone.

A.B.S. writes: "Please give me one or more good recipes for stopping holes in worked oolite stone so that the holes do not show. The stopping should match the stone closely. I have plenty of crushed stone, but do not know of a suitable binder."

—A good method to adopt for stopping holes in freshly worked oolite stones, so that the holes do not show, is to crush some of the stone as fine as possible, and mix with best quality fine Portland cement in the proportion of three of stone dust and one Portland cement. If the worked stone is old and discoloured at all use a bigger proportion of cement in the filling. If the worked stone is on the dark side incorporate a little natural colour (burnt umber) in the filling to match the colour of the stone. After the filling is thoroughly dry the surface should be rubbed down flush with the surrounding face with a piece of the stone. Great care should be taken that there is sufficient key in the holes to prevent the stopping falling out, and the holes should be enlarged or cut back a little to ensure this if necessary.—W.S.B.

Fixing Wall Tiles.

F.R. writes: "Please tell me which is the best method of fixing glazed white wall tiles? Would Keene's cement and putty be advisable, and what proportions should be used? The tiles measure 6 in. by 6 in. by ½ in."

—The best method is to bed the tiles in neat Portland cement on a backing of Portland cement and sand, mixed in the proportions of 1 to 1, and laid on in the same manner as an ordinary rough coat of plaster.

Another method is to use plaster of Paris with the addition of about 5 per cent. of lime putty. A small amount of sized water, if added to the gauging, will retard the setting of the plaster, and allow sufficient time to fix the tiles. If applied to woodwork the plaster must be gauged very stiff in order to prevent it swelling and warping the wood, which would prevent proper adhesion.

Trade and Craft

A Useful Telephone-call Booklet.

Messrs. Geo. W. Wheatley & Co. Ltd., of 95 Upper Thames Street, E.C.4, have issued a booklet which shows at a glance the cost of calls under the new method of charging by distance between subscribers connected with exchanges within the Inner London Zone. In addition, it furnishes a list of exchanges outside the 1½d. limit and within a radius of twenty-five miles of London, together with a schedule of the various London exchanges between any of which the 1½d. charge per call is in operation. The booklet is one of obvious utility, and Messrs. Wheatley & Co. will be glad to supply copies free of charge upon application being made to their London offices.

A Book of Concrete Buildings.

Messrs. Simon Carves, Ltd., of Manchester, have sent us an interesting pamphlet, illustrating some of the reinforced concrete structures designed and erected by the firm during the last ten years. It constitutes a goodly record of successful achievements, and the series of photographs reproduced is sufficient justification of the firm's claim to style themselves "Reinforced Concrete Engineers."

While combining reinforced concrete design and erection under one head, and undertaking, in addition, brick, steel, and masonry structures, Messrs. Simon Carves are careful to point out that they work extensively in conjunction with architects, to whom their specialized knowledge of industrial work should be extremely useful.

The Directive System of Street Lighting.

The General Electric Company, Ltd., Magnet House, Kingsway, London, W.C2, have issued an illustrated leaflet, No. F. 2481, dealing with longitudinal lighting lanterns for use with "Osram" gas-filled lamps, in the directive system of street lighting. By means of this method of lighting nearly all the luminous energy of the light source is used for illuminating the long, narrow area represented by a street. The light distribution of the lantern comprises two distinct parts. The lower hemispherical flux of the lamp is not modified, but is allowed to fulfil its normal function of illuminating the street or road adjacent to the lamp. The upper hemespherical distribution is collected by a specially designed reflector, and is directed upon two plane mirrors, arranged radially from the light source at such angles as will produce powerful illumination up and down the street. These mirrors are so adjusted that they begin to illuminate the street at the points where the direct light fails to bring the illumination up to the required standard. Adjustments of the angles of the plane mirrors can be made to allow for different distances between lamps, and to suit various widths of street. Fittings for use with this system are designed of gas-filled lamps up to 500 watts, but almost invariably 300-watt lamps are sufficient for ordinary requirements.

Land Subsidence and its Effect on Concrete, etc.

Messrs. Kerner, Greenwood & Co., Ltd., have sent us the following communication: "Fortunately it falls to the lot of few engineers to have to deal with a subsidence such as that to the reinforced concrete elevator at Winnipeg, which was described by Mr. Lawson S. White, A.M.I.C.E., A.M.C.I., at the Concrete Institute. The paper was especially interesting as it embraced matters which are peculiar to the climatic and soil conditions existing in Canada. We were particularly struck by the author's reference to the concrete sewers at Winnipeg, Canada, which were eaten away to the point of collapse by the action of the alkali which was contained in the soil. The author indicated that the remedy seems to lie in rendering the concrete impermeable, and this also appears to be the opinion held generally amongst American and Canadian engineers.

"It is significant that the large 18,000,000 gallon concrete reservoir, which was constructed in 1913 in the same city (Winnipeg), was, in fact, waterproofed with the cement waterproofing powder which we manufacture. From the most recent accounts, the waterproofed concrete is satisfactorily withstanding the action of the alkaline subsoil, which has wrought such havoc with concrete not so treated.

"We should hesitate to make any extravagant assertions as to the ability of any integrally waterproofed concrete to withstand the action of strong alkaline solutions. However, it is, we think, reasonably certain, that even if the erosive action of the alkali is not entirely counteracted, the erosion is at least reduced to a minimum, for it follows that if the concrete is impervious, the action of the destructive compounds is confined to a frontal attack. If the concrete is porous, the mischievous solutions creep into the mass and attack it in all directions.

"This remarkable property of our waterproofer has also made it valuable in the formation of cement concrete structures which are subjected to the action of sea-water. It is well known that salt water has a disintegrating effect upon ordinary cement concrete."

The Week's News

Repainting Tower Bridge.

The Tower Bridge is to be repainted at a cost of £19,898, and Blackfriars Bridge at a cost of £10,124.

Retirement of Mr. McCarthy.

Mr. C. J. McCarthy, City Architect, of Dublin, is retiring from that position, which he has held for many years.

Grants to Private Builders.

The Ministry of Health have up to date paid over £3,000,000 in grants to private builders for the erection of 14,715 completed houses.

New Orphanage for Birchington.

It is stated that "The Hall," Birchington, has been acquired by the directors of Spurgeon's Homes, and that the premises are to be converted into an orphanage.

London School of Economics.

Towards the new buildings for the London School of Economics the L.C.C. will grant £15,000 in order to secure a £45,000 Government allowance.

Swanpool Retaining Wall.

Falmouth Corporation have agreed to proceed with the building of a retaining wall at Swanpool, and have accepted the offer of the East Kerrier District Council of £45 toward the cost.

A New Department for Manchester.

Manchester City Council proposes to set up a Housing Department to carry out the Council's housing schemes. The Department would cost about £10,000 a year.

Knaresborough War Memorial.

The memorial, which was recently unveiled, takes the form of a Saxon Cross, 28 ft. high, with inscriptions and the names of the fallen. It was designed by Mr. A. Gibson, architect, Knaresborough and Harrogate, and cost £1,000.

Harrow School War Memorial.

Old buildings are being demolished in High Street, Harrow, to make way for the Harrow School War Memorial. A cross is to be put up opposite the School Chapel and memorial buildings adjoining the Speech Room. This, the first part of the memorial, is to cost £30,000.

Training of Painters and Decorators.

Under the auspices of the Birmingham Painters' and Decorators' Joint Education Committee a painting and decorating class has been started at the School of Art. Provision has also been made for journeymen to attend the evening classes to improve their knowledge of the decorating side of the craft.

Repair of Swing Bridge.

Some of the main structures of the Newcastle Swing Bridge having shown signs of corrosion, the Tyne Improvement Commission have had a thorough examination made. It is proposed to strengthen the structure, and the total cost of the renovation scheme is estimated at £9,900.

American Students and French Devastated Areas.

Fifty architect and engineering students of American universities have offered their services to the French Minister of the Liberated Regions expressing their willingness to work from July to October for the restoration of the devastated regions. M. Loucheur has gratefully accepted the offer.

Newcastle Housing.

The Ministry of Health have ruled that all Newcastle's housing schemes must be regarded as one, and the graduated scale of architects' fees applied thereto. This decision the Housing Committee have questioned in view of the fact that, if sustained, the architects engaged on the difficult Pendower estate will receive remuneration at a less rate than was paid on the first scheme at Walker.

There has not yet been a definite reply from the Ministry, which is held responsible for the delay in the progress of Newcastle's schemes.

Salisbury's War Memorial.

The Salisbury War Memorial Committee have accepted, subject to minor modifications, the design of Messrs. H. H. Martyn & Co., sculptors and architectural decorators, of Cheltenham, for the erection of a war memorial in the Market Square at a cost of £2,000. The accepted design was one of three submitted by the Designs Sub-Committee, who had carefully considered the various designs. The memorial will be of Portland stone, and contains panels for the accommodation of the names of those who are to be commemorated. It will be fixed on a concrete bed 6 in. deep, and the cost of the entire scheme is £2,000.

Ex-Service Architects in Birmingham.

A deputation representing the Architects' Association has waited upon the Housing Committee, and the question was considered of the inclusion of ex-Service architects in the local panel set up in connection with the development of building estates. Some dissatisfaction has arisen among ex-Service men who are qualified architects, because a certain number of them, it is stated, have not secured an opportunity of participating in the development of those estates. It is maintained on behalf of those men that they should be included in the panel. Mr. Buckland, representing the Architectural Association, stated an endeavour would be made to bring other ex-Service architects into the scheme. The committee intimated they did not consider that the scheme at present was wide enough in its scope.

Coming Events

Wednesday, June 29.

Cricket Match between the R.I.B.A. and the A.A., at Elstree, 11 a.m.

June 29 to July 1.

Institution of Civil Engineers.—Engineering Conference, Great George Street, S.W.1., 10 a.m.

Saturday, July 2.

Edinburgh Architectural Association Annual Excursion to Emmanuel Priory and Haining Castle.

Saturday, July 9.

Architectural Association Summer Visit.

Friday, July 15.

Architectural Association Annual Exhibition and Prize Giving.

A R B Arch

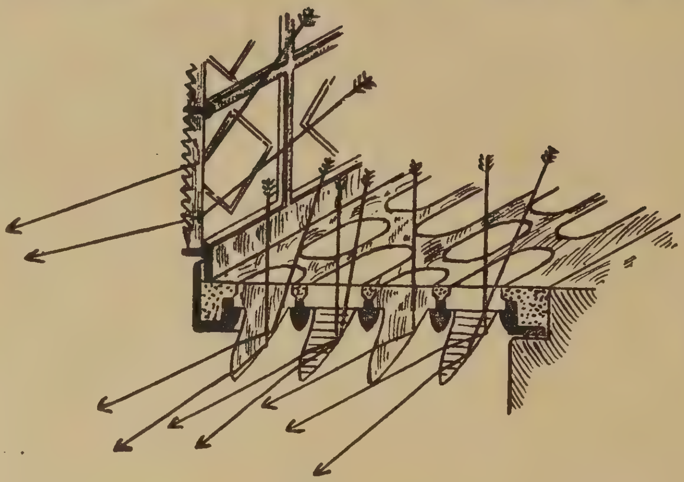
THE ARCHITECTS' JOURNAL
& Architectural Engineer

Sixpence Weekly

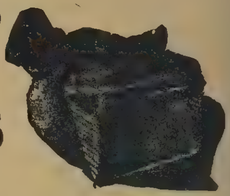
27-29 Tothill Street, Westminster, S.W.1.

Vol. LIII *Registered as a Newspaper* No. 1382

Luxfer Pavement Lights



Stallboard Lights
Floor Lights
Cellar Flaps



The Luxfer Co. Manufacture all constructions through which *Daylight* is admitted into a Building—Dome Lights and Ceiling Lights, Roof Lights, Lantern Lights, Skylights, Leaded Lights, Metal Casements ; Prismatic, Fire-resisting, Ornamental and Roof Glazings.

THE BRITISH LUXFER PRISM SYND., LTD.,

TELEPHONE: Clerkenwell 1127.
16 HILL STREET, FINSBURY, LONDON, E.C.
TELEGRAMS: "Luxfer, Finsquare, London."

"Everyday Uses *of* Portland Cement"

Tells you–
How to build a house or farm buildings
How to repair your fences and paths
How to make drain pipes

Published by
The Cement Marketing Company Limited,
8 LLOYD'S AVENUE, LONDON, E.C.3.

PRICE 7/6 NETT
Post Free in Great Britain.

Tells you–
How to make hundreds of other
EVERYDAY REQUISITES
economically
and
artistically

Fourth Edition

No. 54.

SANKEY'S
BUILDING
MATERIALS

We shall be glad if you will send us your inquiries, and would ask you to put our name on your buyers' list for materials used in building construction

Cements, Limes, Bricks Partition Blocks, Tiles, Slates, Chimney Pots, Sanitary Ware of all kinds, Pipes, Gullies, Interceptors, Fire Bricks, Fire Clays, Fire Cements, and Refractories of every description. Acid-Resisting Goods and Acid Cements, also "Fiberlic" the root Fibre Board, Asbestos Sheets and Tiles. "Sank" brand Paints and Distempers, etc., etc.

¶ We deliver by our own lorries round London, and by vessel or truck to any Port or Station in the United Kingdom.

18 Wharves and Depots.
ESTABLISHED 1857.

J. H SANKEY & SON LTD

Telephone:
East 1061.

HEAD OFFICE:
Essex Wharf, Canning Town,
London, E. 16.

RED HAND TRADE MARK

Anderson's
"ROK"
ROOFING

On private dwellings, public buildings, schools, shops and offices throughout the world, "Rok Roofing" is withstanding the severest tests of weather and climate.

For pitched, flat, and circular roofs, where moderate cost and utmost permanence are essential, it solves the builder's Roofing Problem.

Our world-wide experience is at your service.

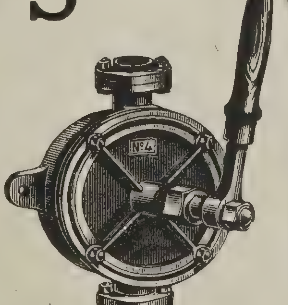
(Our 2-ply "Rok" conforms to Ministry of Health Specification.)

Illustrated Catalogue
POST FREE ON REQUEST

D. ANDERSON & SON, Ltd.
(Dept. J), LAGAN FELT WORKS, BELFAST.
Roach Road Works, Old Ford, London, E.3.

Willcox's
SEMI-ROTARY WING
PUMPS

For House and Estate Water Supply, and general lifting and forcing. Double or quadruple action. Mounted or unmounted.



"PENBERTHY"
AUTOMATIC
CELLAR DRAINERS

For elimination of flooding troubles in cellars and sumps, and maintaining levels in tanks, settling basins, pits, etc. Automatic. Works by ordinary mains or low steam pressure.

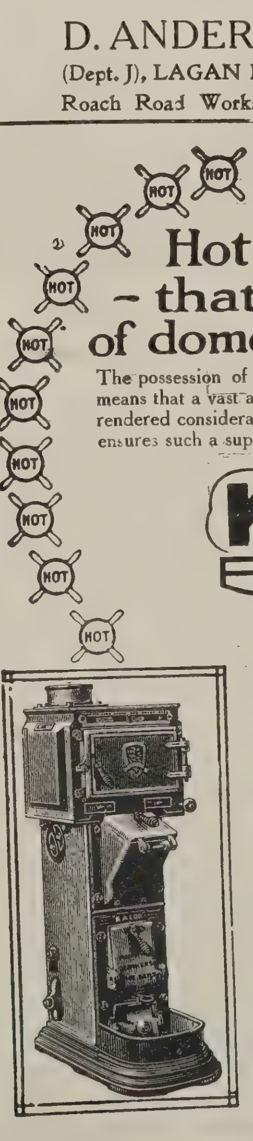
Let us quote for your requirements.

W. H. WILLCOX & CO., LTD.,
32-38 SOUTHWARK STREET,
LONDON, S.E.1.

Hot Water
– that greatest
of domestic boons

The possession of an efficient hot water supply means that a vast amount of household work is rendered considerably easier. The 'KALOR' ensures such a supply.

The
KALOR
BOILER



Conceived on sound engineering lines with the maximum amount of heating surface, the 'KALOR,' in no uncertain fashion, solves the problem of the supply of plenty of hot water for all requirements. It is sturdily constructed of the best materials, is attractive in appearance and easily installed. It is fed with anthracite or coke, and burns kitchen refuse.

Learn more about the "KALOR" by sending for free lists.

R. Jenkins & Co. Ltd.
Rotherham.

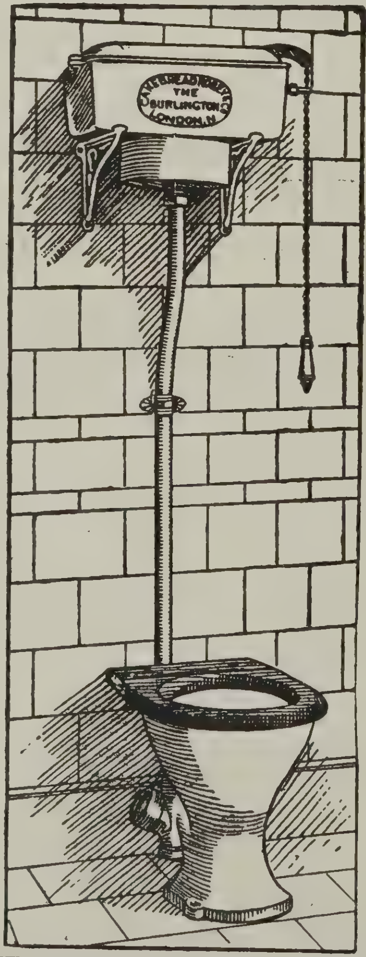
CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Fame and the Architect 787
Notes and Comments: The King and Queen in Belfast; Street Crossings; Health in the Workshop 788
The Popularizing of Architecture. By Charles Cowles Voysey .. 789
Architectural Office Administration. By Francis Lorne, A.R.I.B.A. .. 790
Architectural Education: An Analysis of the Academic System. By Lionel B. Budden, M.A., A.R.I.B.A. 792
London University School of Architecture 795
Mr. William J. Locke on Architectural Neglect 796
The King and the R.I.B.A. .. 796
A Motor-coach Station 799
Architects at Cricket 800
New Dye Works at Perth 800
Royal Sanitary Institute Folkestone Congress 805
Gosport War Memorial Hospital .. 806
Correspondence 809
Law Reports 809
Latest List of New Inventions .. 810
Housing in Scotland 810
Roll of Honour Tablet at Bromley 810
Competitions Open 811
Competition Awards 811
Presentation of the Royal Gold Medal 811
Enquiries Answered 811
Trade and Craft 811
The Week's News 812
Coming Events 812
Current Prices of Materials .. xix
Complete List of Contracts Open .. xxii
The Institute of Mechanical Engineers xxvi

ILLUSTRATIONS.

Thomas Banks, R.A. 785
Architectural Designs. 14.—A Stone Lighthouse. By E. G. Hines (London University [Evening] School of Architecture) 786
Architectural Designs 15.—A Riverside Rowing Club. By A. G. MacDonald (London University School of Architecture—Third Year) 793, 797
Design for a Barn in the Old English Manner. (First Year Work, London University School of Architecture) 795
Plan of Design for a Small Roman Bath. (Second Year Work, London University School of Architecture). By A. L. Knott .. 796
New Motor-coach Station for The Samuelson Transport Company, High Holborn, London. Adamson and Kinns, architects 799, 800
Current Architecture. 93 and 94 —Gosport Memorial Hospital: Plans and Detail of Main Front. Young and Hall, architects 802, 803, 807
Roll of Honour Tablet in Bromley Post Office. Designed by C. H. B. Quennell, F.R.I.B.A. 810


CAKEBREAD ROBEY & CO.
THE BURLINGTON
LONDON, N.

PROMPT DELIVERY FROM STOCK AT D.B.M.S. PRICES

For HOUSING SCHEMES

HEAVY FIRECLAY PEDESTAL CLOSETS. HARDWOOD SEATS WITH BOLTS. PAINTED WATER WASTE PREVENTERS AND BRACKETS. GALVANISED FLUSH PIPES, COMPLETE AS DRAWN

DELIVERY BY MOTOR TO MOST TOWNS

CAKEBREAD ROBEY & CO. LD.

(ESTABLISHED 1882)

Merchants and Manufacturers:

CAROBA WORKS, WOOD GREEN, LONDON, N. 22.

Phone—
PALMERS GREEN 635, 636, 691

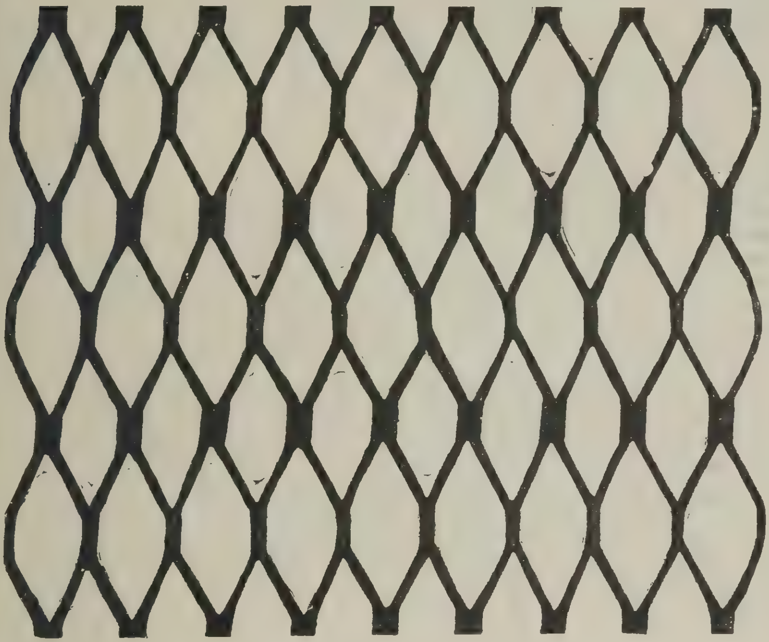
Telegraphic Address—
"SPLENDOUR WOOD, LONDON."

CONTRACTORS TO H.M. GOVERNMENT.

ENQUIRIES SOLICITED FOR ALL SCHEMES. STOVES. RANGES. CASTINGS. IRONMONGERY. SANITARY GOODS, Etc.

"BB" EXPANDED METAL LATHING

FOR PLASTERWORK



ACTUAL SIZE OF MESH.

PLASTER DOES NOT FALL OFF EXPANDED METAL LATHING. WHY USE IMPORTED WOOD LATH—EXPANDED METAL IS AS CHEAP, IS BETTER AND HOME-MADE.

SUPPLIED IN SHEETS 9ft. by 2ft.
DIPPED ONE COAT BLACK ASPHALTUM.

STOCKS ARE HELD BY MERCHANT HOUSES IN ALL LARGE CENTRES.

SPECIAL LOW PRICES

ARE BEING QUOTED FOR :—

No. 250, 26g. "BB" EXPANDED METAL LATHING, approx. weight 2¼ lbs. per yd. super
No. 252, 24g. "BB" EXPANDED METAL LATHING, " " 3 lbs. per yd. super

PURCHASABLE FROM THE PATENTEES AND MANUFACTURERS

THE EXPANDED METAL CO., L$^{TD.}$

YORK MANSION, PETTY FRANCE, LONDON, S.W.1.

WORKS: WEST HARTLEPOOL.

WRITE FOR SAMPLES AND PRICES TO THE COMPANY, (Dept. A), OR DISTRICT REPRESENTATIVES

J. M. CARTMELL,
8 Gordon Street, Glasgow.
E. A. COOKE,
40 Belgrave Road, Rathmines, Dublin.
G. B. CORNER,
1 Oxford Row, Leeds.
H. S. HOLFORD,
Dome Buildings, Richmond, Surrey.
J. McNEILL,
16 Chichester Street, Belfast.

B. J. MILLER,
33 Brazennose Street, Manchester.
MITCHELL & SON,
Palace Gate, Exeter.
A. E. PEARSON & SONS,
21 Myton Street, Hull.
D. M. B. SMYTH,
5 Dumfries Place, Cardiff.
R. SPENCELAYH,
47 County Buildings, Corporation Street, [Birmingham.

HENRY WALKER & SON, LTD., Gallowgate Ironworks, Newcastle-on-Tyne.

CHARLES & READ L^TD.

ARCHITECTS' TYPISTS, LITHOGRAPHERS,
DRAUGHTSMEN, LAW STATIONERS
& PRINTERS.

HEAD OFFICE
27 CHANCERY LANE
LONDON W.C.2
Telephone
HOLBORN 153 & 6387

CITY OFFICE
3 & 4 GREAT WINCHESTER S^T
LONDON E.C.2
Telephone
CENTRAL 1380

ARCHITECTS & SURVEYORS

BILLS OF QUANTITIES
AND
SPECIFICATIONS

Lithographed or Typewritten and Carbon Copies

Immediate Attention No Waiting

ESTATE PLANS AND DRAWINGS COPIED REDUCED OR ::
ENLARGED PHOTO PRINTS OF DRAWINGS A SPECIALTY
TRUE TO SCALE (BLACK ON WHITE) PRINTS, BLUE PRINTS:

REPRODUCTIONS BY ALL PROCESSES

CRITTALL

STANDARD
METAL
WINDOWS

OUR NEW WORKS AT WITHAM DEVOTED EXCLUSIVELY TO STANDARD WINDOWS HAS DOUBLED OUR CAPACITY DURING THE LAST THREE MONTHS.

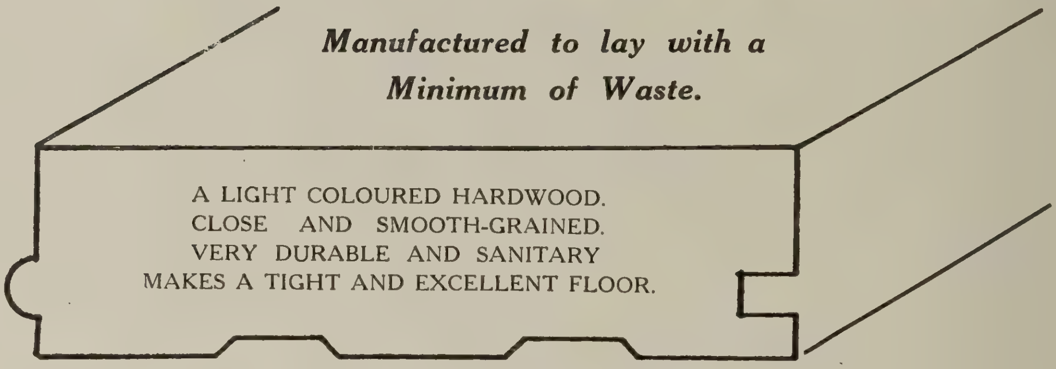
ALL SIZES ARE ACTUALLY IN STOCK. WE GUARANTEE TO MAKE DELIVERY TO KEEP PACE WITH THE REQUIREMENTS OF ALL HOUSING SCHEMES.

DELIVERY FROM STOCK OF ALL TYPES

THE CRITTALL MANUFACTURING Co. Ltd. BRAINTREE ENGLAND

MAPLE FLOORING

Manufactured to lay with a Minimum of Waste.



A LIGHT COLOURED HARDWOOD.
CLOSE AND SMOOTH-GRAINED.
VERY DURABLE AND SANITARY
MAKES A TIGHT AND EXCELLENT FLOOR.

FOR PRICES AND PARTICULARS APPLY

R. G. TICKLE & SON, LIMITED,
General Timber Merchants,
BLACKSTOCK STREET, LIVERPOOL.

MELLOWES & CO., LTD.
SPECIALISTS IN SANITARY FITTINGS,
LONDON AND SHEFFIELD.

AN EXTENSIVE AND VARIED SELECTION OF SANITARY GOODS FOR ALL PURPOSES IN STOCK, AVAILABLE FOR IMMEDIATE DELIVERY.

Catalogue and Current Price List on application.

OFFICE AND SHOW ROOMS:
26 VICTORIA STREET,
WESTMINSTER,
S.W.

Telegrams:
"Mellowes, Vic, London."
Telephone:
Victoria 4568.

TRADE MARK
NINE ELMS BRAND

Every building should be stamped with the "imprint" of
NINE ELMS

"NINE ELMS" PRODUCTS

- Nine Elms Pure Paint.
- Nine Elms Greenhouse Paint.
- Nine Elms Impervious Paint.
- Nine Elms Ideal Lustre Paint.
- Nine Elms Hard Gloss Preservative Paint.
- Nine Elms White Enamel.
- Nine Elms Coverite.
- Nine Elms Aluminium Paint.
- Nine Elms Stainers.
- Nine Elms Water Paint.
- Nine Elms Ceilingite.
- Nine Elms Putty.
- Nine Elms Patent Driers.
- Nine Elms Varnishes.
- Nine Elms Wood Preservative.

"NINE ELMS" PURE PAINT

The standard of value in Paint is dependant upon the purity of the ingredients and the care exercised in combining and mixing such ingredients.

"Nine Elms" pure paint is **Guaranteed** to be made only from selected genuine stack-made White Lead; Genuine Linseed Oil; pure American Turps; and superfine Driers, ground, mixed, and strained by specially designed machinery. The quality of "Nine Elms" pure paint never varies, and will pass any test, practical or analytical, and we can safely claim that it cannot be excelled for absolute purity, fineness, colour and density. Note the **Guarantee** on every can.

Works:
WESTMINSTER, S.W.
NINE ELMS LANE, S.W.
LIMEHOUSE, E.
MITCHAM, SURREY.

T. & W. Farmiloe Ltd.
Rochester Row. Westminster. S.W. 1.

Telephone:
VICTORIA 4480
(Pte. Brch. Exch.).
Telegrams:
FARMILOE, SOWEST, LONDON.

Architectural & Technical Books.

B. T. BATSFORD, LTD.

The Decorative Work of Robert and James Adam. 35/- net. Postage 1/3

The Cheap Cottage and Small House. A Manual of Economic Building. By J. GORDON ALLEN, F.R.I.B.A. 8/6 net. Postage 9d.

The Architecture of the Renaissance in Italy. By WILLIAM J. ANDERSON, A.R.I.B.A. 16/- net. Postage 1/-

Where the Great City Stands. A Study in the New Civics. By C. R. ASHBEE, M.A., F.R.I.B.A. 25/- net. Postage 1/-

Building Repairs. By E. G. BLAKE. Price 8/6 net. Postage 6d.

The Cathedrals of England and Wales. By FRANCIS BOND, M.A. 10/- net. Postage 1/-

Modern Plumbing Practice. By J. WRIGHT CLARKE. 12/- net. Postage 1/-

Estimating for Reinforced Concrete. By T. E. COLEMAN. 5/- net. Postage 9d.

The XVIIIth Century in London. By E. BERESFORD CHANCELLOR, M.A., F.R.Hist.Soc. 35/-. Postage 1/-

The English Parish Church. By J. CHARLES COX, LL.D., F.S.A. 10/- net. Postage 1/-

Public Baths and Wash-houses. By ALFRED W. S. CROSS, M.A., F.R.I.B.A. 25/- net. Postage 1/-

Old English Doorways. By W. GALSWORTHY DAVIE. 25/- net. Postage 1/-

Port Sunlight. By T. RAFFLES DAVISON, Hon. A.R.I.B.A. 6/6 net. Postage 9d.

Alphabets, Old and New. By LEWIS F. DAY. 7/6 net. Postage 9d.

Lettering in Ornament. By LEWIS F. DAY. 6/- net. Postage 9d.

Modern Practical Carpentry. By GEORGE ELLIS. 30/- net. Postage 1/-

Modern Technical Drawing. By GEORGE ELLIS. 7/6 net. Postage 9d.

Studies of the Human Figure. By G. MONTAGUE ELLWOOD and F. R. YERBURY. 16/- net. Postage 9d.

A Handbook of French Renaissance Sculpture. By D. CADY EATON, B.A., M.A. (New York). 16/- net. Postage 9d.

Heraldry as Art. By GEORGE W. EVE, R.E. 15/- net. Postage 9d.

London Building Acts, 1894-1909. By Prof. BANISTER FLETCHER, F.R.I.B.A. 10/- net. Postage 9d.

Gardens in the Making. By WALTER H. GODFREY, F.S.A. 7/6 net. Postage 9d.

A History of Architecture in London. By WALTER H. GODFREY, F.S.A. 10/- net. Postage 9d.

English Mural Monuments and Tombstones. Selected by HERBERT BATSFORD, Introduction by WALTER H. GODFREY, F.S.A. 15/- net. Postage 9d.

The English Staircase. By W. H. GODFREY, F.S.A. 20/- net. Postage 1/-

The English Home from Charles I. to George IV. By J. ALFRED GOTCH, F.S.A. 30/- net. Postage 1/-

Early Renaissance Architecture in England. By J. ALFRED GOTCH, F.S.A. 20/- net. Postage 1/-

The Construction of a House. By CHARLES GOURLAY, B.Sc., A.R.I.B.A. 8/6 net. Postage 1/-

A History of Ornament. Ancient and Mediaeval. By A. D. F. HAMLIN, Prof. of Architecture at Columbia University, U.S. 25/- net. Postage 1/-

Concrete and Stucco Houses. By OSWALD C. HERING. 15/- net. Postage 1/-

Decoration in England from 1660 to 1770. By FRANCIS LENYGON. 50/- net. Postage 1/6

Furniture in England from 1660 to 1760. By FRANCIS LENYGON. 50/- net. Postage 1/6

Greek Buildings represented by Fragments in the British Museum. By Prof. W. R. LETHABY. 12/6 net. Postage 9d.

Practical Drawing. By E. G. LUTZ. 6/6 net. Postage 9d.

G. BELL & SONS, LTD.

History of French Architecture, 1661-1774. By SIR REGINALD BLOMFIELD, R.A., Litt.D., M.A., F.S.A. 2 Vols. £4 4s. Postage 1s. 6d.

History of Renaissance Architecture in England. By REGINALD BLOMFIELD, M.A. Vols. I. and II. 50/- net, complete. Postage 1/3

Short History of Renaissance Architecture in England, 1500-1800. By REGINALD BLOMFIELD, M.A. 8/6 net. Postage 9d.

Hellenic Architecture: Its Genesis and Growth. By EDWARD BELL, M.A., F.S.A. 7/6 net. Postage 6d.

Architecture of Ancient Egypt. By EDWARD BELL, M.A., F.S.A. 7/6 net. Postage 9d.

Gothic Architecture in England and France. By GEORGE HERBERT WEST, D.D., A.R.I.B.A. 7/6 net. Postage 9d.

Laboratories, their Planning and Fittings. By ALAN E. MUNBY, M.A., F.R.I.B.A. Price 25/- Postage 1/-

CONSTABLE & CO., LTD.

Surveying and Field Work. By J. WILLIAMSON, A.M.Inst.C.E. 9/- net. Postage 1/-

Timber. By J. R. BATERDEN, A.M.I.C.E. 7/6 net. Postage 1/-

Electric Lamps. By MAURICE SOLOMON, A.C.G.I., A.M.I.E.E. 7/6 net. Postage 1/-

Decorative Glass Processes. By A. L. DUTHIE. 8/6 net. Postage 1/-

Glass Manufacture. By WALTER ROSENHAM. 12/6 net. Postage 1/-

Introduction to the Chemistry and Physics of Building Materials. By ALAN E. MUNBY, M.A. 7/6 net. Postage 9d.

Welding and Cutting of Metals by the Aid of Gases or Electricity. By Dr. L. A. GROTH. 8/6 net. Postage 9d.

Commercial Paints and Painting. By ARTHUR SEYMOUR JENNINGS. 7/6 net. Postage 9d.

Cement, Concrete, and Bricks. By A. B. SEARLE. 10/6 net. Postage 1/-

The Elements of Mechanics of Materials. By C. E. HOUGHTON, A.B., M.M.E. 10/6 net. Postage 1/-

The Design of Simple Steel Bridges. By P. O. G. USBORNE. 12/6 net. Postage 1/-

Manual of Reinforced Concrete. By C. F. MARSH and WILLIAM DUNN. 14/- net. Postage 9d.

Concise Treatise of Reinforced Concrete. By CHARLES F. MARSH. 10/6 net. Postage 9d.

Properties and Design of Reinforced Concrete. By NATHANIEL MARTIN, A.G.T.C., B.Sc., A.M.I.C.E. 8/- net. Postage 9d.

Some Modern Methods of Ventilation. By RONALD GRIERSON, A.M.I.M.E., A.M.I.E.E. 8/6 net. Postage 9d.

Elements of Structural Design. Vol. I. By HORACE R. THAYER. 16/- net. Postage 1/-

Practical Design of Steel Framed Sheds. By ALBERT S. SPENCER. 12/- net. Postage 9d.

Masonry Applied to Civil Engineering. By F. NOEL TAYLOR, M.I.C.E. 7/6 net. Postage 9d.

Pricing of Quantities. By GEORGE STEPHENSON. 5/- net. Postage 9d.

Building in London. By HORACE CUBITT. A.R.I.B.A. 31/6 net. Postage 1/3

Theory and Practice of Designing. By HENRY ADAMS, M.I.C.E., M.I.M.E. 7/6 net. Postage 9d.

Practical Surveying: For Surveyors' Assistants and Students. By ERNEST MCCULLOUGH, C.E. 12/- net. Postage 9d.

Electric Welding and Welding Appliances. By H. CARPMAEL. 18/- net. Postage 9d.

The Arbitration Clause in Engineering and Building Contracts. By E. J. RIMMER, M.I.C.E. 2/- net. Postage 3d.

Perspective. By B. J. LUBSCHEZ, M.A.I.A. 6/- net. Postage 6d.

CROSBY LOCKWOOD & SONS.

Appraiser: Auctioneer, Broker, House and Estate Agent and Valuer's Pocket Assistant. By JOHN WHEELER. 6/- net. Postage 9d.

Architectural Perspective. By F. O. FERGUSON. 5/- net. Postage 9d.

Architectural Perspective for Beginners. By G. PYNE. 2/6 net.

Architecture—Design. By EDW. L. GARBETT. 3/- net. Postage 6d.

Architecture—Orders. By W. H. LEEDS. 2/6 net. Postage 3d.

Architecture—Styles. By T. TALBOT BURY, F.R.I.B.A. 2/6 net. Postage 4d.

Brick Cutting and Setting. By ADAM HAMMOND. 2/6 net. Postage 3d.

Bricklaying. By ADAM HAMMOND. 2/6 net. Postage 3d.

Brickwork. By F. WALKER. 2/6 net. Postage 3d.

Builders' Ready Reckoner. The Public Works Calculator. 2/6 net. Postage 2d.

Practical Building Construction. By J. P. ALLEN, P.A.S.I. 9/- net. Postage 1/-

Every Man His Own Builder. By G. GORDON SAMSON. 15/- net. Postage 9d.

Bungalow Residences. By PERCIVAL T. HARRISON, A.M.I.C.E. 7/6 net. Postage 6d.

Carpentry and Joinery. By T. TREDGOLD, C.E. 5/- net. Postage 6d.

Clerk of Works. By GEORGE MERSON. 3/6 net. Postage 4d.

Concrete: Its Nature and Uses. By G. L. SUTCLIFFE. 10/6 net. Postage 9d.

House Painting, Graining, Marbling and Sign Writing By E. A. DAVIDSON. 6/- net. Postage 6d.

Lockwood's Builders' Price Book for 1921. By R. STEPHEN AYLING, F.R.I.B.A. 7/6 net. Postage 1/-

Plumbing. By WM. PATON BUCHAN. 4/6 net. Postage 6d.

Quantities and Measurements. By A. C. BEATON. 2/- net. Postage 2d.

Roof Carpentry. By GEO. COLLINGS. 2/6 net. Postage 3d.

Sewerage Systems: Their Design and Construction. By HUGH S. WATSON, A.M.I.C.E. 12/6 net. Postage 1/-

Surveying as Practised by Civil Engineers and Surveyors. By JOHN WHITELAW. 12/6 net. Postage 1/-

Practical Surveying. By GEO. W. USILL, A.M.I.C.E. 8/6 net. Postage 9d.

LONGMANS GREEN & CO.

A History of Architectural Development. By F. M. SIMPSON, F.R.I.B.A. vols. 12/6 each, net. Postage 1/- each vol.

A Text-Book of the History of Architecture. By A. D. F. HAMLIN, A.M. 9/- net. Postage 9d.

An Encyclopaedia of Architecture. By JOSEPH GWILT, F.S.A. 25/- net. Postage 1/3

Builders' Quantities. By WM. EDGAR BALLARD, Asso. M.I.C.E., P.A.S.I. 3/6 net. Postage 6d.

Structural Steelwork. By ERNEST G. BECK, Asso. M.I.C.E. 21/- net. Postage 1/-

Rivington's Notes on Building Construction. Edited by NOBLE TWELVETREES. Part I. & II. 9/- each, net. Postage 1/- each. Part III. 22/6 net. Postage 1/-. Part IV. 15/- net. Postage 1/-

Building Construction. Vol. I. By BERESFORD PITE, F.R.I.B.A. 16/- net. Postage 1/-. Vol. II. By JOHN H. MARKHAM, A.R.I.B.A. 16/- net. Postage 1/-

Elementary Building Construction & Drawing. By EDWARD J. BURRELL. 4/- Postage 6d.

Masonry. By GEORGE R. BARHAM. 3/6 net. Postage 6d.

Standard Architectural and Technical Works can be obtained direct from

TECHNICAL JOURNALS, LTD., 27-29 Tothill Street, Westminster.

The above list includes only a small proportion of the volumes to be found in the Reading Room.

Architectural & Technical Books.

LONGMANS GREEN & CO.

Elementary Practical Building Construction. By F. W. Booker. 4/- Postage 6d.

Reinforced Concrete Construction in Theory and Practice. By Henry Adams. M.I.C.E., M.I.M.E, F.S.I., F.R.S.I. 15/- net. Postage 1/-

Mechanics for Builders. By Edward L. Bates. Parts I. and II. 4/- each net. Postage 6d. each part.

Farm Building and Building Construction in South Africa. By W. S. H. Cleghorne, B.Sc. (Edin.), A.M.I.M.E. 22/- Postage 1/-

The Elements of Surveying and Geodesy. By W. C. Popplewell, M.Sc., A.M.I.C.E. 9/- net. Postage 9d.

Preliminary Survey and Estimates. By T. G. Gribble, M.I.C.E. 8/6. Postage 9d.

Civil Engineering as applied n Construction. By L. F. Vernon-Harcourt, M.A., M.I.C.E. 25/- net. Postage 1/-

Domestic Sanitary Engineering & Plumbing. By F. W. Raynes. 21/- net. Postage 1/-

Ventilation and Humidity in Textile Mills and Factories. By C. H. Lauder, M.Sc., A.M.I.C.E., A.M.I.M.E. 6/- net. Postage 6d.

Town Planning. With special reference to the Birmingham Schemes. By George Cadbury, jun. 8/- net. Postage 9d.

Garden First in Land Development. By William Webb, F.S.I. 5/- net. Postage 9d.

Applied Mechanics. By David Allen Low, M.I.M.E. 12/6 net. Postage 1/-

Structural Engineering. By Joseph Husband. 12/6 net. Postage 9d.

Strength of Materials. By Arthur Morley, D.Sc., M.I.M.E. 14/- net. Postage 1/-

Theory of Structures. By Arthur Morley, D.Sc., M.I.M.E. 14/ net. Postage 1/-

The Mechanics of Building Construction. By Henry Adams, M.I.C.E., M.I.M.E., F.S.I., F.R.S.I., M.S.A. 7/6 net. Postage 9d.

Cement. By Bertram Blount, F.I.C. 18/- net. Postage 9d.

Engineering Construction. By W. H. Warren. Part I. Steel & Timber. 30/- net. Postage 1/- Part II. Masonry & Concrete. 36/- net. Postage 1/-

SIR ISAAC PITMAN & SONS.

Magnetism and Electricity. By J. R. Ashworth, D.Sc. Price 3/- net. Postage 4d.

A Primer of Engineering Science. Part I. First Steps in Applied Mechanics. 3/- net. Part II. First Steps in Heat and Heat Engines. 2/6 net. By Ewart S. Andrews, B.Sc. Postage 4d.

Iron and Steel. By C. Hood. 3/- net. Postage 4d.

Copper. By H. K. Picard. 3/- net. Postage 4d.

Timber. By W. Bullock. 3/- net. Postage 4d.

Clays and Clay Products. By Alfred B. Searle. 3/- net. Postage 4d.

Glass and Glass Manufacture. By Percival Marson. 3/- net. Postage 4d.

Gas and Gas Making. By W. H. V. Webber, C.E. 3/- net. Postage 4d.

Furniture. By H. E. Binstead. 3/- net. Postage 4d.

Zinc. By T. E. Jones, M.A. LL.D., B.Sc. 3/- net. Postage 4d.

Paints and Varnishes. By A. S. Jennings. 3/- net. Postage 4d.

Stones and Quarries. By J. Allan Howe, B.Sc., M.I.M.M. 3/- net. Postage 4d.

Lead. By J. A. Smythe, Ph.D., D.Sc. 3/- net. Postage 4d.

Drawing and Designing. By Charles G. Leland, M.A. 3/6 net. Postage 4d.

Wood Carving. By Charles G. Leland, M.A. 5/- net. Postage 9d.

Metal Work. By Charles G. Leland, M.A. 5/- net. Postage 7d.

Manual Instruction: Drawing. By S. Barter. 4/- net. Postage 7d.

Manual Instruction: Woodwork. By S. Barter. 7/6 net. Postage 1 -

The Art and Craft of Cabinet-making. By D. Denning. 7/6 net. Postage 6d.

Handrailing for Geometrical Staircases. By W. A. Scott. 2/6 net. Postage 4d.

Stained Glass Work. By C. W. Whall. 10/6 net. Postage 8d.

Woodcarving Design and Workmanship. By George Jack. 7/6 net. Postage 6d.

Writing and Illuminating and Lettering. By Edward Johnston. 8/6 net. Postage 9d.

Surveying and Surveying Instruments. By G. A. T. Middleton, A.R.I.B.A., M.S.A. 6/- net. Postage 5d.

Field Manual of Survey Methods and Operations. By A. Lovat Higgins, B.Sc., A.R.C.S., A.M.I.C.E. 21/- net. Postage 9d.

Carpentry and Joinery. By Sir Banister F. Fletcher, F.R.I.B.A., F.S.I., and H. Philips Fletcher, F.R.I.B.A., F.S.I. 7/6 net. Postage 8d.

Structural Iron and Steel. By W. Noble Twelvetrees, M.I.M.E., A.M.I.E.E. 7/6 net. Postage 8d.

Reinforced Concrete. By W. Noble Twelvetrees, M.I.M.E., A.M.I.E.E. 21/- net. Postage 9d.

Concrete-Steel Buildings. By W. Noble Twelvetrees, M.I.M.E., A.M.I.E.E. 12/- net. Postage 9d.

Practical Designs of Reinforced Concrete Beams and Columns. By W. Noble Twelvetrees, M.I.M.E., A.M.I.E.E. 7/6 net. Postage 6d.

Detailed Design in Reinforced Concrete. By Ewart S. Andrews, B.Sc. 6/- net. Postage 3d.

The Stresses in Hooks and Other Curved Beams. By Ewart S. Andrews, B.Sc. 6/- net. Postage 3d.

Pipes and Tubes. By Philip R. Bjorling. 6/- net. Postage 6d.

Tables of Safe Loads on Steel Pillars. By Ewart S. Andrews, B.Sc. 6/- net. Postage 3d.

Modern Illuminants and Illuminating Engineering. By Leon Gaster and J. S. Dow. 25/- net. Postage 1/-

Gas Supply in Principles and Practice. By W. H. Y. Webber, C.E. 4/- Postage 6d.

Gas, Gasoline, and Oil Engines, including Glossary. By John B. Rathbun. 8/- net. Postage 6d.

Electric Bells and All About Them. By S. R. Bottone. 3/6 net. Postage 5d.

Practical Electric Light Fitting. By F. C. Allsop. 6/- net. Postage 7d.

Electric Light Fitting. By S. C. Batstone. 6/- net. Postage 7d.

Electric Wiring, Fittings, Switches, and Lamps. By W. Perren Maycock, M.I.E.E. 10/6 net. Postage 9d.

Electric Wiring Diagrams. By W. Perren Maycock, M.I.E.E. 5/- net. Postage 4d.

Electric Wiring Tables. By W. Perren Maycock, M.I.E.E. 5/-net. Postage 2½d.

Whittaker's Electrical Engineers' Pocket Book. By Kenelm Edgcumbe, M.I.E.E., A.M.I.C.E. 10/6 net. Postage 6d.

Mathematical Tables. By W. E. Dommett, A.M.I.A.E. 4/6 net. Postage 3d.

Practical Trigonometry. By Henry Adams, M.I.C.E., M.I.M.E., F.S.I. 5/- net. Postage 3d.

Metric Conversion Tables. By W. E. Dommett, A.M.I.A.E. 2/6 net. Postage 2½d.

Simplified Methods of Calculating Reinforced Concrete Beams. By W. N. Twelvetrees, M.I.M.E., A.M.I.E.E. 9d. net. Postage 1½d.

Lightning Conductors and Lightning Guards. By Sir Oliver J. Lodge, F.R.S., LL.D., D.Sc., M.I.E.E. 15/- net. Postage 1/-

TECHNICAL JOURNALS.

The Art of E. A. Rickards. With a personal Sketch by Mr. Arnold Bennett. 63/- net. Postage 1/3

Architectural Water Colours and Etchings of W. Walcot. 63/- net. Postage 1/3

Small Houses of the Late Georgian Period. By Stanley C. Ramsey, F.R.I.B.A. 21/- net. Postage 1/-

Houses for Workers. 7/6 net. Postage 9d.

Garden City Houses and Domestic Interior Details. 7/6 net. Postage 9d.

Concise Costing for Houses. By T. Sumner Smith, M.Q.S.A., F.I.An. 5/6 net. Post free.

Recent English Domestic Architecture. Edited by Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A. 3 Vols. 12/6 each net. Postage 1/6 (3 vols.). Each volume contains over 200 pages.

French-English Glossary of Architectural and Building Trade Terms. 1/- net. Postage 2½d.

The Architects' Library of Plates. 7 Portfolios. 7/6 each net. Postage 9d.

Practical Notes for Architectural Draughtsmen. By W. S. Cross, M.A., F.R.I.B.A., and A. E. Munby, M.A., F.R.I.B.A. Part I. The Orders and their Application. Part II. Details of the Orders. Part III. Constructional Details. Part IV. Perspective. Part V. Shadows. This portfolio shows the quickest and the best way of doing this work. £1 1s. net. Postage 1/3

Standard Examples of Architectural Details. A Portfolio of Large Plates of Details. Selected by Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A. 10/6 net. Postage 1/3

Practical Exemplar of Architecture. Selected by Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A. 5 Vols. Over 500 Plates. 21/- each net. Postage 1/- each Portfolio.

Some Famous Buildings and their Story. By A. W. Clapham, F.S.A., and W. H. Godfrey. 5/- net. Postage 9d.

Etchings by Piranesi. With Introductions by Prof. C. H. Reilly, M.A., F.R.I.B.A. 2 Vols. 50 Selected Plates in each volume. 3/6 each net. Postage 1/- (2 vols.)

Liverpool Architectural Sketchbook. Edited by Prof. C. H. Reilly, M.A., F.R.I.B.A. Vol. III. 5/- net. Postage 9d. Vol. IV. (1920 Ed.). 10/6 net. Postage 9d.

English Ecclesiastical Architecture. Prefatory Articles by Sir Charles Nicholson, Bart., M.A., F.R.I.B.A., and Charles Spooner, F.R.I.B.A. Over 200 pages. 6/6 net. Postage 1/-

Chronological History of British Architecture. Profusely illustrated, with Articles by Prof. Edward S. Prior, M.A., F.S.A., F.R.I.B.A., J. A. Gotch, F.S.A., F.R.I.B.A., and Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A. 15/6 net. Postage 1/-

A Book of Ceilings. By George Richardson. London 1776. 48 large Plates. £4.

Italian Renaissance Furniture. By Bode & Herrick. With 134 Illustrations. 20/-

Specification for Architects, Engineers, and Contractors (1921 *Edition*). Issued annually. 10/6 net. Postage 1/-

OXFORD UNIVERSITY PRESS.

Practical Sheet-Metal Duct Construction. By William Neubecker. Price 12/- net. Postage 6d.

The Ventilation Handbook. By Charles L. Hubbard. 12/- net. Postage 6d.

Standard Architectural and Technical Works can be obtained direct from

TECHNICAL JOURNALS, Ltd., 27-29 Tothill Street, Westminster.

The above list includes only a small proportion of the volumes to be found in the Reading Room.

SWITCH ON
EDISWAN

Beautifying the Home

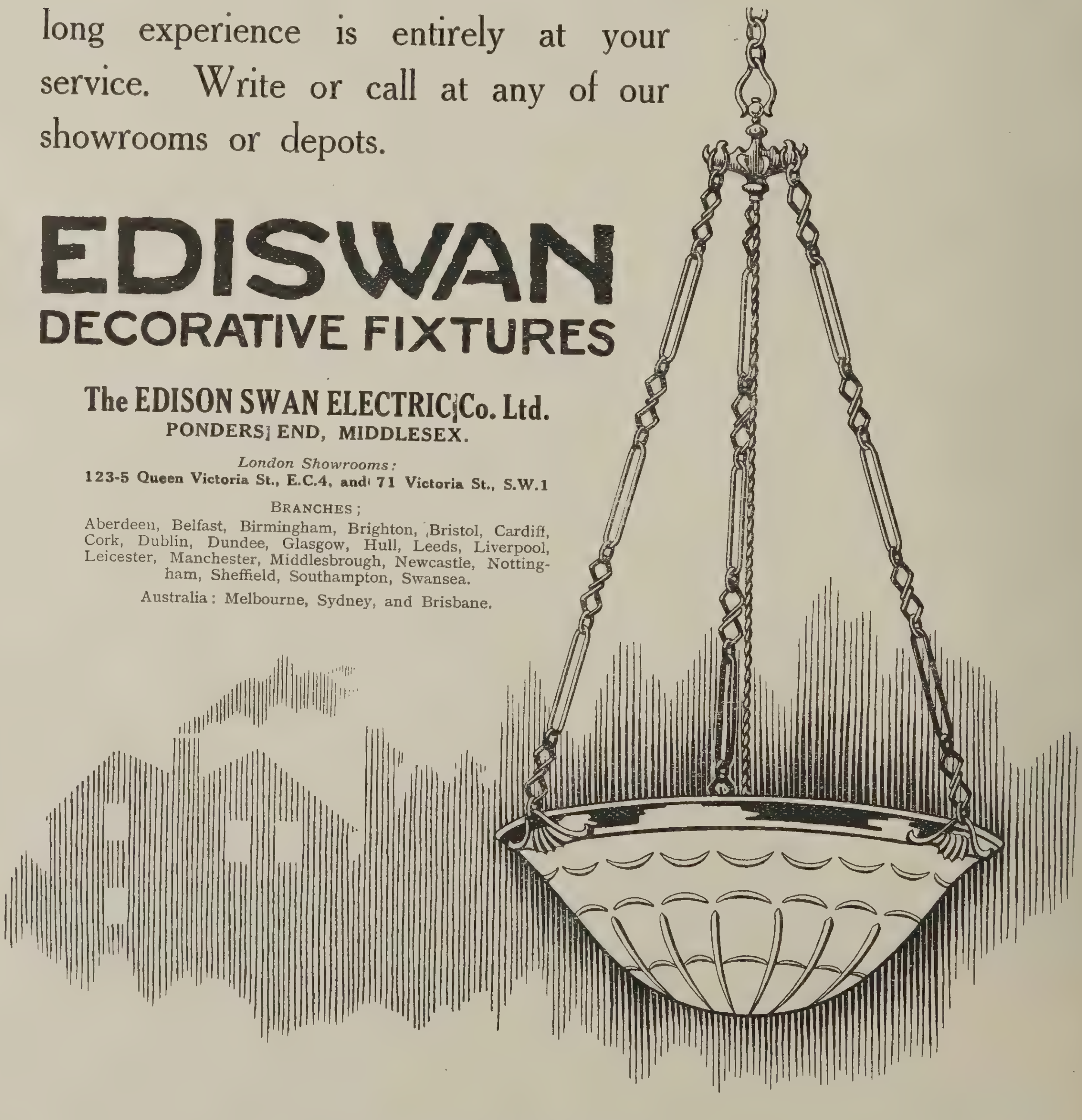
FOR every style of decoration, Ediswan Fittings should be specified. For taste, distinction, and for economy they set the standard. Fittings in all periods are in rough stock ready to be finished to any desired colour. Our long experience is entirely at your service. Write or call at any of our showrooms or depots.

EDISWAN
DECORATIVE FIXTURES

The EDISON SWAN ELECTRIC Co. Ltd.
PONDERS END, MIDDLESEX.

London Showrooms:
123-5 Queen Victoria St., E.C.4, and 71 Victoria St., S.W.1

BRANCHES;
Aberdeen, Belfast, Birmingham, Brighton, Bristol, Cardiff, Cork, Dublin, Dundee, Glasgow, Hull, Leeds, Liverpool, Leicester, Manchester, Middlesbrough, Newcastle, Nottingham, Sheffield, Southampton, Swansea.
Australia: Melbourne, Sydney, and Brisbane.



3 Good Things

All Architects should specify during 1921.

"MURALINE"

THE PERFECT WATER PAINT.

Sanitary, Artistic and Durable. In 30 Shades. Sold in a Dry Powder.

In 2½lb., 5lb., and 7lb. Packets ana in Kegs.

"MURAPRIME"

AN EFFECTIVE PRIMING FOR OLD AND NEW POROUS WALLS.

A Priming for "MURALINE" and all Washable Water Paints, stops Suction on Porous Plaster Walls, and also ensures the Fixing of Colours on Wall-Papers prior to Distempering.

"COVERINE"

THE CELEBRATED WHITE UNDERCOATING. One Coat Transforms Black into White. It can be Second Coated in a few hours.

Sold in 7lb. Tins and in Bulk.

FOR FULL PARTICULARS OF FURTHER PAINTS & SPECIALITIES APPLY

WALTER CARSON & SONS

Grove Works - - - BATTERSEA, LONDON, S.W.11.

Telegrams: "Carsons, Battsquare, London." *Telephone: Battersea 1630 (2 lines).*

BRITISH FIBROCEMENT WORKS LTD.

CONTRACTORS TO THE ADMIRALTY AND WAR OFFICE
APPROVED BY THE MINISTRY OF HEALTH FOR STATE AIDED HOUSING.

ASBESTOS-CEMENT MANUFACTURERS

CORRUGATED SHEETS
Sizes—4ft. to 10ft.
Width—27 inches.
¼" thick.

FIRE RESISTING · WEATHER PROOF · FIBRENT · LIGHT · EVERLASTING
REGISTERED TRADE MARK

CURVED SHEETS TO ANY RADIUS

ROOFING TILES
(15¾ × 15¾)

FLAT SHEETS
(8′ × 4′ 6′ × 3′ 4′ × 4′)

MANUFACTURED ONLY AT ERITH, KENT.
Telephone: ERITH 89 (2 lines)
HEAD OFFICE AND WORKS.

London Office—
22 Laurence Pountney Lane,
Cannon Street, E.C. 4.
Telephone: CITY 2329.

Birmingham Office—
14 New Street,
Birmingham.
Telephone: CENTRAL 7292.

Bristol Office—
28 Baldwin Street,
Bristol.
Telephone: BRISTOL 272

Manchester Office—
414 Corn Exchange Buildings,
Manchester.
Telephone: CITY 7856.

Also at GLASGOW, CARDIFF, DUBLIN and BELFAST.

CERTUS

CERTUS
Regd. Trade Mark.

Cold-Water Glue Powder
Waterproof, Heatproof
Ideal for Outdoor Work

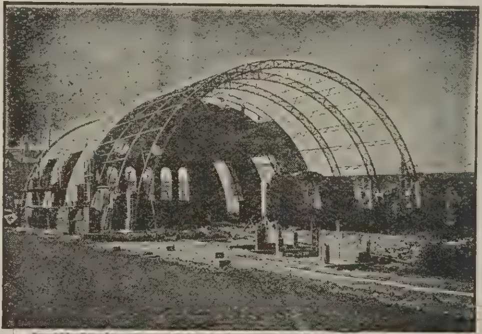
FORTIL JELLY GLUE

A skin glue which is liquid at 70° Fahr. Does not stain and is highly suitable for all woodwork. Most efficient and economical.

Write for List "A" and Samples.

CENTRAL CHEMICALS LIMITED,
8-10 LITTLE SUFFOLK ST., LONDON, S.E. 1.

E. F. BLAKELEY & Co. (LIVERPOOL) LIMITED.
VAUXHALL IRONWORKS, BIRKENHEAD.
Contractors to H.M. Government. Established 1881.



Drill Hall, Royal Garrison Artillery, Lancaster.

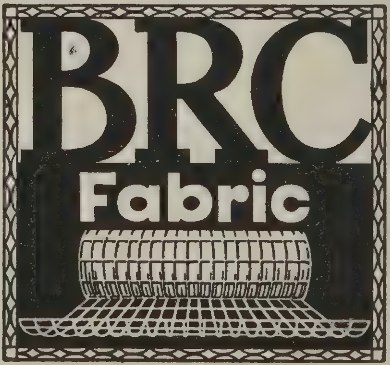
STEEL AND IRON ROOFS

Principals. Lattice.
Girders. Stanchions.
Estimates Free.
Tel.: "Corrugated," Birkenhead
'Phone: 1568 Birkenhead.

Specialists in
HEATING
all classes of buildings by
HOT WATER

PLANS AND ESTIMATES PREPARED.
Illustrated Lists Free on Application.

MESSENGER & CO., LTD., Horticultural Builders and Heating Engineers.
LOUGHBOROUGH, LEICESTERSHIRE. London Office: 122 Victoria St., S.W. 1



SW&Co

Reliable Plumbing Work.

There is no part of the work in a Modern Building that requires the same standard of skill in design and erection as the Plumbing and Drainage System.

Good Plumbing when carried out in a high-class manner by a specialist firm is a source of satisfaction to everyone concerned. Architects and Engineers recognize this, entrusting their most important Plumbing work to Contractors skilled by experience.

We are specialists in work of this description, and are always willing to submit schemes and estimates for contracts, whether in London or the Provinces.

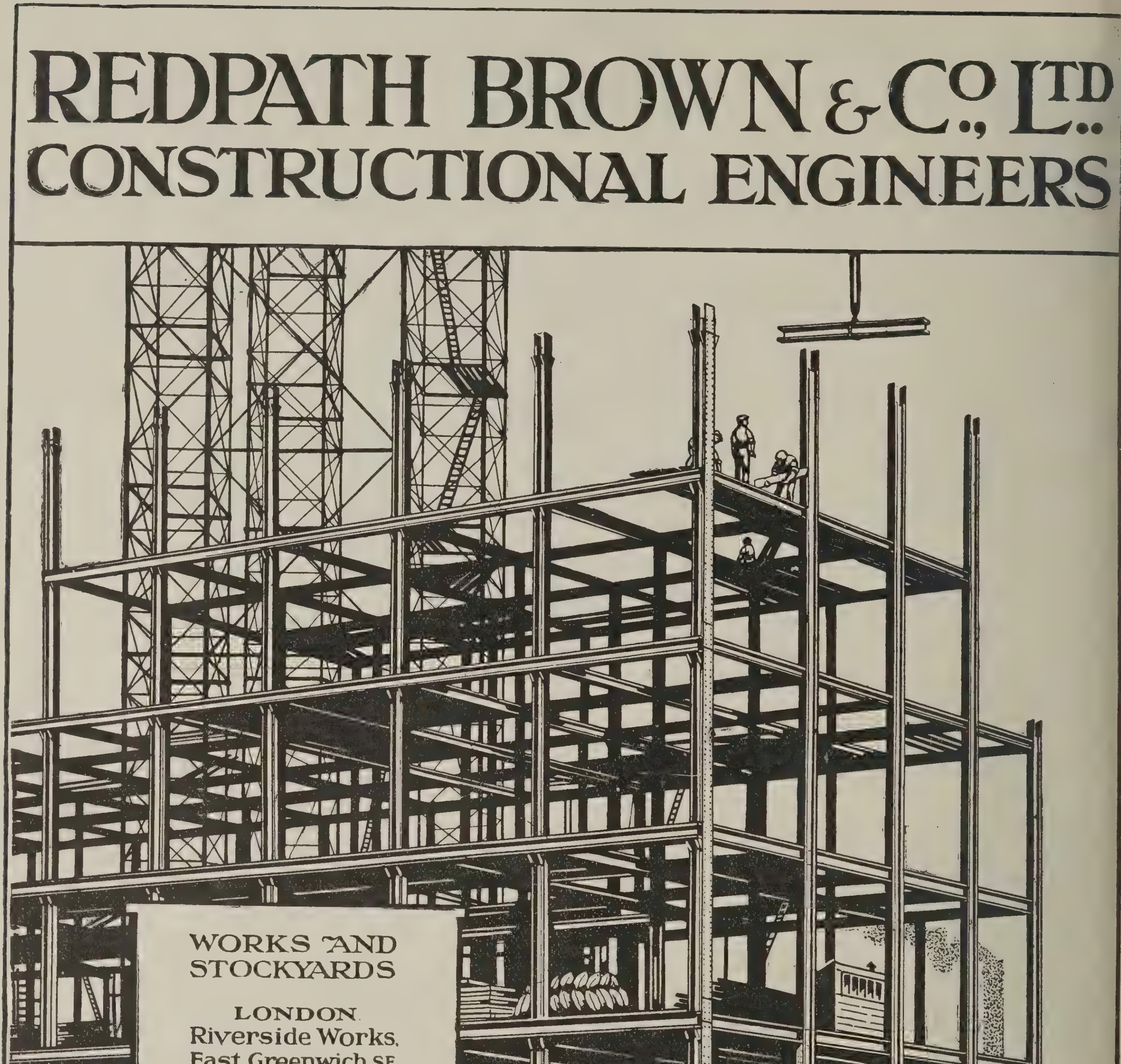
STITSON, WHITE & CO.,

Plumbing and Heating Contractors,

102, VICTORIA ST., WESTMINSTER, S.W.1

Works and Stores:
Irongate Wharf Road,
Paddington, W.2.

'Phone:
VICTORIA 7352.



REDPATH BROWN & Co. Ltd.
CONSTRUCTIONAL ENGINEERS

WORKS AND STOCKYARDS

LONDON.
Riverside Works.
East Greenwich.S.E.

MANCHESTER.
Trafford Park.

EDINBURGH.
St Andrew Steel Works.

GLASGOW.
Pinkston.
Office 19,Waterloo St.

BIRMINGHAM
Office. 47, Temple Row.

NEWCASTLE-ON-TYNE.
Milburn House

London City Office.
3, LAURENCE POUNTNEY HILL.
E.C.4.

Originality Hampered

Originality in conception is often hampered for lack of technical assistance.

It is one thing to realize a colour scheme and another thing to have the courage to execute it without preliminary test.

The Architect is frequently hindered by his position. His professional services limit the freedom required by the artist. He cannot experiment at his client's expense.

Decoration, if it is to be redeemed from the commonplace by the skill of the Architect, needs all the courage and originality of the artist designer, assisted by the best executive assistance.

Preliminary experiments in connection with Architects' original schemes for decoration, colour effects, and all branches of decorative art will be readily undertaken by Messrs. Green & Abbott.

Colour Experiments for Decorative Treatments can be carried out at this Firm's Studios.

Messrs. Green & Abbott desire to work for, and with, the Architect. Their facilities, resources, and executive ability are placed entirely at the Architect's service. To express the ideal of this service they have coined the phrase

"THE ARCHITECT'S DECORATORS"

GREEN & ABBOTT LTD. Decorators
473 *Oxford Street, London, W.*

Telegrams : "Skyblue, London." Near Marble Arch. Telephone : Mayfair 5800

P.G.

Churches—Houses—Bridges—Piers—Wharves

Coke Hoppers—Silos—Cinemas—Water Towers—these are the jobs the Somerville organization is constantly completing to the satisfaction and the advantage of the people who undertake the schemes. Such diversity of work is in itself somewhat surprising. It calls for abundant energy, much knowledge, and plenty of experience on the part of the men who do the planning. Fortunately they have the backing of great resources in capital and material, and they can rely upon the actual work being carried out with speed and efficiency. Somerville successes in planning and completion are due to effective organization, be the job large or small. Write if you have a scheme on hand — for a thousand pounds or a million. Consultations to suit your convenience.

D. G. SOMERVILLE & CO., LTD., 120-122 Victoria St., S.W. 1
:: :: Works: New Cross. :: ::

FERRO-CONCRETE

Enquiries are invited for:

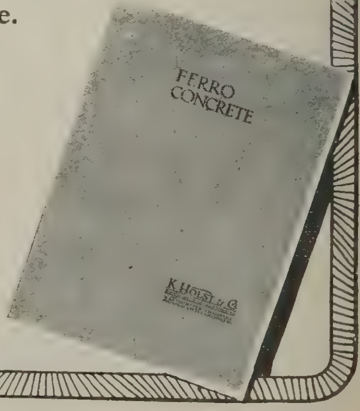
Bridges	Factory Buildings
Foundations	Warehouses
Water Towers and Tanks	Wharves and Jetties

and all types of Ferro-Concrete Structures.

Full responsibility for Design as well as Construction is accepted by K. Holst & Co.

Proposals and Estimates submitted free.

Write for illustrated Brochure.



K. HOLST & Co.

Engineers & Contractors

Head Office:
WESTMINSTER CHAMBERS,
1, VICTORIA STREET, LONDON, S.W.1
Telephone: VICTORIA 4234 Telegrams: FERROLST, VIC., LONDON

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade inquiry. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR.	
Excavator, 1s. 11d. per hour. Labourer, 1s. 10d. per hour. Navvy, 1s. 10d. per hour. Timberman, 2s. per hour. Scaffolder, 2s. per hour. Watchman, 8s. 6d. per shift.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price 4s. 8d. per yd. cube. Exceeding 6 ft., but under 12 ft., add 25 per cent. In stiff clay, add 50 per cent. In underpinning, add 120 per cent. In rock, including blasting, add 225 per cent. If basketed out, add 80 per cent to 150 per cent. Headings, including timbering, add 400 per cent. Return, fill, and ram, ordinary earth, 4s. 8d. per yd. Spread and level, including wheeling, 4s. 9d. per yd. Planking, 7d. per ft. sup. Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent. Hardcore, 2 in. ring, filled and rammed 4 in. thick, 6s. per yd. sup. Do. 6 in. thick, 8s. per yd. sup. Puddling, 46s. 9d. per yd. cube. Cement concrete, 4-2-1, 69s. 6d. per yd. cube. Do. 6-2-1, 55s. per yd. cube. Do. in upper floors, add 15 per cent. Do. in ferro concrete work, add 20 per cent. Do. in underpinning, add 60 per cent. Lias lime concrete, 50s. per yd. cube. Breeze concrete, 58s. per yd. cube. Do. in lintols, etc., 4s. 3d. per ft. cube.
——	
Broken brick or stone, 2 in., 18s. per yd. Thames ballast, 19s. per yd. Pit gravel, 22s. per yd. Pit sand, 23s. 6d. per yd. Washed sand, 23s. 6d. per yd. Screened ballast or gravel, add 10 per cent. per yd. Clinker, breeze, etc., prices according to locality. Portland cement, 94s. per ton. Do. in small lots, ex London stock, 104s. per ton. Lias lime, 77s. per ton. Sacks charged extra at 2s. 6d. each and credited when returned at 2s. Transport hire per day : Cart and horse, 37s. 3-ton motor lorry, £7. Steam lorry, 5-ton, £7. Trailer, 32s. 6d. Steam roller, £6 10s. Water cart, 38s.	
DRAINER.	
Labourer, 1s. 10d. per hour. Timberman, 1s. 11d. per hour. Bricklayer, 2s. 2d. per hour. Plumber, 2s. 2½d. per hour. Watchman, 8s. 6d. per shift.	Stoneware drains, jointed in cement, tested pipes, 4 in., 5s. 6d., 6 in. 8s., 9 in. 9s. 9d., per ft. Cast-iron drains, jointed in lead, 4 in. 18s., 6 in. 26s. per ft. Note.—These prices include digging and filling for normal depths, and are average prices.
——	
Stoneware pipes, tested quality, 4-in. 3s. 6d., 6-in. 5s. 3d., 9-in., 8s. 4d. per yd. Cast iron pipes, coated, 9-ft. lengths, 4-in. 12s., 6-in. 17s. 6d. per yd. Portland cement and sand, see "Excavator" above. Lead for caulking, 37s. per cwt. Gaskin, 11d. per lb.	
BRICKLAYER.	
Bricklayer, 2s. 2d. per hour. Labourer, 1s. 10d. per hour. Scaffolder, 1s. 11d. per hour.	Brickwork in stone lime mortar, Flettons, or equal, £49 per rod. Do. in cement do., £54 per rod. Do. in stocks, add 25 per cent. per rod. Do. in blues, add 320 per cent. per rod. Do. circular on plan, add 12½ per cent. per rod. Facings, fair 2d. per ft. sup. extra. Do. picked Flettons, 4d. per ft. sup. extra. Do. picked stocks, 4½d. per ft. sup. extra. Do. salt, white or ivory glazed, 6s. 6d. per ft. sup. extra. Tuck pointing, 1s. per ft. sup. extra. Weather pointing, 4d. per ft. sup. extra. Granolithic and Cement paving, 1 in., 4s. 9d. per yd. sup. Do. 1½ in., 5s. 9d. per yd. sup. Do. 2 in., 6s. 6d. per yd. sup. Fixing only damp course, ex rolls, 2d. per ft. sup. Asphalt, damp course ½ in., 10s. per yd. sup. Do. vertical, 15s. per yd. sup. Slate damp course, 1s. 7d. per ft. sup. Asphalt paving in two thicknesses, ¾ in., 13s. per yd. Do. skirting, 6 in., 1s. 7d. per ft.
——	
London stocks, 115s. per M. Flettons, 91s. per M. Staffordshire blue, 245s. per M. Firebricks, 2½ in., 260s. per M. Glazed salt, white, and ivory stretchers, £31 10s. per M. Do. headers, £31 per M. Colours, extra, 110s. per M. Seconds, less, £1 per M. Cement and sand, see "Excavator" above. Lime, grey stone, 77s. per ton. Mixed lime mortar, 30s. per yd. Damp course, in rolls of 4 in. 8s. per roll. 9 in. 9s. 6d., 14 in. 12s., 18 in. 15s. 6d. per roll.	
MASON (INCLUDING SLATE.)	
Mason, 2s. 2d. per hour. Do. fixer, 2s. 3d. per hour. Labourer, 1s. 10d. per hour. Scaffolder, 1s. 11d. per hour.	Hoisting and setting stone, 2s. 9d. per ft. cube. Do. for every 10 ft. above 30 ft., add 15 per cent. Plain face Portland bases, 2s. 10d. per ft. sup. Do. circular, 4s. 4d. per ft. sup. Sunk face, 4s. per ft. sup. Do. circular, 4s. 9d. per ft. sup. Joints, arch, 2s. 6d. per ft. sup. Do. sunk, 2s. 6d. per ft. sup. Do. do. circular, 4s. 3d. per ft. sup. Circular-circular work, 20s. 6d. per ft. sup. Plain moulding, straight, per inch of girth, 11d. per ft. run. Do. circular, do. 1s. 3d. per ft. run. Half sawing, 1s. 4d. per ft. sup. Add to the foregoing prices if in York stone 35 per cent.
——	
Portland stone : Whitbed, 5s. 7d. per ft. cube. Basebed, 5s. 10d. per ft. cube. Bath stone, 3s. 10d. per ft. cube. Mansfield, red, 8s. (Usual trade extras for large blocks.)	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued)	
York paving, av. 2½ in. 3s. per ft. sup. York templates sawn, per ft. cube, 17s. Slate shelves, rubbed, 1 in., 3s. per ft. sup. Cement and sand, see "Excavator," etc., above.	Do. Mansfield, 12½ per cent. Deduct for Bath, 33⅓ per cent. Do for Chilmark, 5 per cent. Setting 1 in. slate shelving in cement, 1s. 2d. per ft. sup. Rubbed round nosing to do., 10d. per ft. lin. York steps, rubbed T. & R., 34s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 2s. 1d. per hour. Tiler, 2s. 1d. per hour. Scaffolder, 1s. 11d. per hour. Labourer, 1s. 10d. per hour. N.B.—Tiling is often "Piece-work."	Slating, 3 in. gauge, compo nails, Portmadoc or equal : Ladies 100s., Countess 115s., Duchess 120s. per square. Westmorland, in diminishing courses, 160s. per square. Cornish do., 155s. per square. Add, if vertical, 12s. per square approx. Add, if with copper nails, 7½ per cent. per square approx. Double course at eaves, 1s. 4d. per ft. approx. Tiling, 4 in. gauge, 5th course nailed, in hand-made tiles, average 129s. 6d. per square. Do., machine-made do., 117s. 6d. per square. Fixing lead soakers, 11d. per dozen.
——	
Slates, 1st quality, per M. : Portmadoc Ladies £23, Countess £43, Duchess £59. Clips, lead, 4¾d. per lb. Clips, copper, 2s. 5d. per lb. Nails, compo, 38s. per cwt. Nails, copper, 2s. 4d. per lb. Cement and sand, see "Excavator," etc., above. Handmade tiles, 180s. per M. Machine-made tiles, 160s. per M. Westmorland slates, large 258s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 2d. per hour. Joiner, 2s. 2d. per hour. Labourer, 1s. 10d. per hour.	Fir, fixed in wall plates, lintels, sleepers, etc. 9s. per ft. cube. Do., framed in floors, roofs, etc., 10s. 9d. per ft. cube. Do., framed in trusses, etc., including ironwork, 13s. per ft. cube. Pitch pine, add 33⅓ per cent. Fixing only boarding in floors, roofs, etc., 18s. per sq. Sarking felt laid, 1-ply 1s. 11d., 3-ply 2s. 6d. per yd. Centering for concrete, etc., including horsing and striking, 80s. per sq. Slate battening, 30s. per sq. 1 in. deal gutter board on firring, 97s. per sq. 1¾ in. moulded casements in 4 sqs., glazing beads and hung, 3s. 5d. per ft. sup. 2 in. do. do., 3s. 9d. per ft. sup. Deal cased frames, oak sills, 2 in. D.H. sashes, brass pullies, etc., 5s. per ft. sup. Doors, 4 pan, sq. b.s., 2 in. 3s. 2d. per ft. sup. Do. do. do., 1½ in. 3s. 5d. per ft. sup. Do. do., moulded b.s., 2 in. 4s. per ft. sup. Do. do. do., 1½ in. 3s. 5d. per ft. sup. If in oak multiply 6 times. If in mahogany multiply 6 times. If in teak multiply 7½ times. Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾ in. 15s., 1 in. 18s. 1¼ in. 20s. per yd. sup., average. Staircase work, deal : 1 in. riser, 1¼ in. tread, fixed, 4s. 3d. per ft. sup. 2 in. deal strings, fixed, 4s. 6d. per ft. sup.
——	
Timber, average prices, ex-Dock, and d/d works or site, London Standard.	
——	
Scandinavian, etc. (equal to 2nds) : 7 × 3, £36 per std., to 11 × 4, £64 per std. 2s. 9d. to 5s. per ft. cube. Memel or Equal. Slightly less than foregoing. Flooring P.E., 1-in., 38s. per sq. Do. T. and G., 1 in. 39s. per sq. Planed Boards, 1 in. × 11 in., £63 per std. Wainscot oak, 3s. 8d. per ft. sup. of 1 in. Mahogany, 3s. 3d. per ft. sup. of 1 in. Do. Cuba, 4s. 3d. per ft. sup. of 1 in. Teak, 3s. 9d. per ft. sup. of 1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 2½d. per hour. Mate or labourer, 1s. 10d. per hour.	Milled lead and labour in gutters, flashings, etc. 62s. Lead pipe, fixed, including running joints, bends, and tacks, ½ in., 1s. 7d. per ft. Do., ¾ in., 2s. 1d. per ft. Do., 1 in., 2s. 8d. per ft. Do., 1¼ in., 3s. 6d. per ft. Lead waste or soil, fixed as above, complete, 2½ in., 6s. per ft. Do., 3 in., 7s. per ft. Do., 4 in., 7s. 9d. per ft. Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½ in., 3s. per ft. Do., 3 in., 3s. 6d. per ft. Do., 4 in., 3s. 10d. per ft. Cast-iron H.R. gutter, fixed, with all clips, etc., 4 in., 2s. 6d. per ft. Do., O.G., 4 in., 3s. 3d. per ft. Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4 in., 6s. 6d. per ft. Do., 3 in., 5s. 6d. per ft. Fixing only : W.C. pans and all joints, P. or S., and including water waste preventers, 60s. each. Baths only, with all joints, 52s. Lavatory basins only, with all joints on brackets. 45s. each.
——	
Lead, milled sheet, 36s. per cwt. Do. drawn pipes, 36s. 6d. per cwt. Do. soil pipe, 39s. per cwt. Do. scrap, 19s. per cwt. Copper, sheet, 2s. 4d. per lb. Solder, plumbers, 1s. per lb. Do. fine, 1s. 4d. per lb. Cast-iron pipes, etc. : L.C.C. soil, 3 in. 9s. 3d., 4 in. 11s. 6d. per yd. R.W.P., 2½ in. 6s. 3d., 3 in. 7s. 9d., 4 in. 10s. 3d. per yd. Gutter, 4 in. H.R., 5s., 4 in. O.C., 5s. 7d. per yd.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, 2s. 1d. per hour. Glass : 4th in crates : Clear, 21 oz. 6¾d., 26 oz. 8¼d. Cathedral, white, 6½d. per ft. Pold, plate, ¼ in., 4s. 9d. per ft. and up. Rough plate, $\frac{3}{16}$ in., 7d., ¼ in. 7¾d. per ft. Linseed oil putty, 18s. 6d. per cwt.	Glazing, in putty, clear sheet, 21 oz. 1s. 4d., 26 oz. 1s. 8d. Glazing in beads, 21 oz. 1s. 6d., 26 oz. 1s. 10d. per ft. Patent glazing in rough plate, normal span, 1s. 11d. to 2s. 3d. per ft. Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 3d., and up, per ft. sup.
PLASTERER.	
Plasterer, 2s. 2d. per hour. Labourer, 1s. 10d. per hour. — Chalk lime, 81s. per ton. Hair, 34s. per cwt. Sand and cement, see "Excavator," etc., above. Lime putty, 6s. 3d. per cwt. Hair mortar, 42s. 6d. per yd. Fine stuff, 45s. 9d. per yd. Sawn laths, 5s. per bdl. Keene's cement, 95s. per ton. Sirapite, 75s. per ton. Do. fine, 75s. 6d. per ton. Plaster, 79s. per ton. Do. fine, 80s. per ton. Thistle plaster, 73s. per ton. Lath nails, 5d. per lb.	Lathing, with sawn laths, 2s. 3d. per yd. Metal lathing, 2s. 5d. per yd. Floating in Portland, 1 to 3, for tiling or woodblock, ¾ in., 3s. 3d. per yd. Do., vertical, 3s. 4d. per yd. Render, on brickwork, 1 to 3, 3s. per yd. Render in Portland and set in fine stuff, 4s. 6d. per yd. Render, float, and set, trowelled, 3s. 6d. per yd. Render and set in Sirapite, 3s. 10d. per yd. Do., in Thistle plaster, 3s. 10d. per yd. Extra, if on but not including lathing, any of foregoing, 9d. per yd. Extra, if on ceilings, 8d. per yd. Angles, rounded Keenes on Keenes, 10d. per ft. lin. Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin. White glazed tiling set in Portland and jointed in Parian, 42s. per yd.
DECORATOR.	
Painter, 2s. 1d. per hour. Labourer, 1s. 10d. per hour. French polisher, 2s. 4d. per hour. Paperhanger, 2s. 2d. per hour. — Genuine white lead, 58s. 6d. per cwt. Linseed oil raw, 3s. 10d. per gall. Do. boiled, 4s. 3d. per gall. Turpentine, 7s. 3d. per gall. Liquid driers, 14s. per gall. Knotting, 37s. per gall. Distemper, washable, in ordinary colours, 45s. per cwt. and up. Double size, 6s. per firkin. Pumice stone, 10d. per lb. Hard stopping, 10d. per lb. Varnish, hard oak, 15s. 6d. per gall. and up. Do. Outside do., 16s. per gall. and up.	Lime whiting 2 coats 7d. per yd. sup. Wash, stop, and whiten, 10d. per yd. sup. Do., and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup. Knot, stop, and prime, 10d. per yd. sup. Plain painting, including mouldings, and on plaster or joinery, 1st coat, 1s. 2d. per yd. sup. Do., subsequent coats, 1s. 1d. per yd. sup. Do., enamel coat, 1s. 11d. per yd. sup. Brush, grain, and 2 coats varnish, 5s. 9d. per yd. sup. Figured do. do., 9s. per yd. sup. French polishing, 1s. 9d. per ft. sup. Stripping old paper and preparing, 2s. per piece. Hanging paper, ordinary, 2s. 3d. per piece. Do., fine, 3s. and upwards per piece. Varnishing paper, 1 coat, 14s. per piece. Canvas, strained and fixed, 3s. per yd. sup. Varnishing, hard oak, 1st coat, 1s. 7d. yd. sup. Do., each subsequent coat, 1s. 5d. per yd. sup.
DECORATOR (continued)	
Varnish, Copal, 21s. per gall. and up. Do. Flat, 21s. per gall. Do. Paper, 19s. per gall. French polish, 29s. per gall. Ready mixed paints, 14s. per gall. and up.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate. Mate, no fixed rate. Erector, 2s. 2d. per hour. Fitter, 2s. 2d. per hour. Labourer, 1s. 10d. per hour. — Mild steel in British standard sections, £26 per ton. Sheet steel : Flat sheets, black, £40 per ton. Do. Galvd., £41 per ton. Corrugated sheets, black. Do. Galvd., £33 per ton. Driving screws, galvd., 4s. per grs. Washers, galvd., 2s. 3d. per grs. Bolts and nuts, 60s. per cwt. and up.	Mild steel in trusses, etc., erected, £37 per ton. Do., in small sections as reinforcement, £30 per ton. Do., in compounds, £29 per ton. Do., in bar or rod reinforcement, £29 per ton. Wrot. iron in chimney bars, etc., including building in, 54s. per cwt. Do., in light railings and balusters, 58s. per cwt. Fixing only corrugated sheeting, including washers and driving screws, 2s. 3d. per yd.
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 9¼d. per ft. sup.
Plaster Board, 2s. 3d. per yd. sup.	Plaster Board, fixed as last, 5s. 8d. per yd. sup.
Asbestos sheeting, $\frac{5}{32}$ in., grey flat, 3s. 6d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 5s. 10d. per yd. sup.
Do. corrugated, 6s. per yd. sup.	Do. do., corrugated, 8s. 9d. per yd. sup.
Asbestos Composition. Flooring :	Laid in two coats, average ¾ in. thick, in plain colours, 17s. 6d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 6d. per ft. sup.	Building in metal casement frames, 8d. per ft. sup.
Asbestos cement slates or tiles, $\frac{5}{32}$ in. punched per M., grey £25 10s., red £27 10s.	Asbestos slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey 70s., red 72s.
Waterproofing compounds for cement.	Add about 75 per cent. to 100 per cent. to the cost of cement used.

These lists are strictly copyright.

Architectural Decorators
— to —
H.M. King George V.

H. H. MARTYN & Co. LTD.
SCULPTORS, CARVERS & MODELLERS,
BRONZE and IRON FOUNDERS.
FIBROUS PLASTER & WOODWORK,
STAINED GLASS WINDOWS.
And 5 Grafton Street,
Bond Street, LONDON, W.1.
CHELTENHAM.

"VERONESE"
Proprietors: C. S. Co. Ltd.
Ranelagh Gardens, Fulham, S.W.6.
RELIEF DECORATIONS for CEILINGS and WALLS in FIBROUS PLASTER,
FRENCH STUC, CARTON PIERRE, and WOOD.
Telephone: Putney 1979

This Safe fell through three floors

TRADE MARK
JOHN TANN'S RELIANCE SAFE 117 NEWGATE ST. LONDON E.C.

PROOF AGAINST FIRE, FALL OR BURGLARY

THE illustration above — one example of many similar instances—shows a John Tann "Anchor Reliance" Safe that not only passed through intense heat but sustained a fall through three floors. The valuable documents and books were in a perfect condition and were not even scorched.

Ordinary steel made sufficiently hard becomes drill-proof, but at the same time it necessarily becomes extremely brittle and can be broken with comparative ease.

A point of vital importance to bear in mind when choosing a Safe is that the compound steel employed in the making of a John Tann Safe is composed of alternate layers of hard high carbon steel and tough mild steel rolled and welded together in a solid plate that is *unbreakable* as well as Drill-proof.

JOHN TANN
SAFES & STRONG-ROOMS
Strong-room Doors, Security Boxes, Etc.

have behind them the experience of a century and a quarter, and during that time no fire-resisting Safe has ever had its contents destroyed by fire and no thief-resisting Safe has ever been opened by Burglars.

The technical Management of John Tann Ltd. is in the hands of Capt. J. L. Tann, B.Sc.(London), A.M.Inst.C.E., A.M.I.Mech.E., A.C.G.I., who will be pleased to advise or confer with Architects as to installations.

JOHN TANN LTD
117, NEWGATE STREET, LONDON, E.C.1

For Drawings and Plans :—

WHATMAN
Genuine Hand Made
DRAWING PAPERS
UNRIVALLED FOR 150 YEARS.

Official price list can be obtained on request from any Artists Colourman, Drawing Office Stationer or Paper Merchant in the United Kingdom.

Double Elephant	40" x 26¾"	133 lbs	480's	1/8d.	per sheet nett
Imperial	30½" x 22½"	72 lbs.	480's	11d.	" " "
Royal	24" x 19"	44 lbs.	480's	6½d.	" " "

THESE ARE ONLY A FEW OF THE MOST POPULAR OF THE 75 VARIETIES OF SIZE, SUBSTANCE & SURFACE.

LOOK FOR THE WATERMARK IN EVERY SHEET, THUS:

J WHATMAN

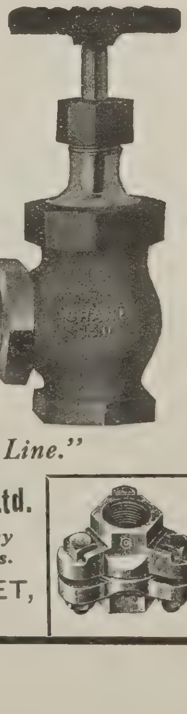
In case of any difficulty in obtaining supplies or particulars: write the Sole Mill Representatives:—

H. REEVE ANGEL & Co. 9, BRIDEWELL PLACE, E.C.4.
TELEPHONE: CITY 7414 (3 LINES) TELEGRAMS: PAPERMEN, LONDON.

CRANE
1855— —1921
World Wide

Pipe Line Requisites
for

Heating Installations
Hospitals and Hostels
Housing Schemes
Power Plants
Public Buildings
Private Residences



Doubt as to the Efficiency of the Fittings that will enter into the Pipe Line Installation is the most disturbing element to the constructive mind of the Architect or Engineer. Eliminate the fear of failure. **CRANE** Valves and fittings have an established reputation for Reliability; every Fitting bears the **CRANE** trade mark which has become a guarantee with British Engineers, the men whose expert knowledge demands a reliable product of permanent quality.

"Everything for any Pipe Line."

CRANE-BENNETT Ltd.
Distributors of Sanitary Fixtures and Materials.
45-51 LEMAN STREET,
LONDON, E.1

COMPLETE LIST *of* CONTRACTS OPEN

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDINGS.

June 29.—**HOUSES. Ashton-under-Lyne.**—Erection of 86 houses on the Hey's Estate, off Mossley Road, for the Borough Council. Apply Messrs. W. H. George & Son, Architects, 7 Warrington Street, Ashton-under-Lyne. Deposit £1 1s.

June 29.—**HOUSES. Goole.**—For erection of 62 houses on the Pasture Road site, for the Goole Urban District Council. Apply Mr. J. H. Castle, Engineer and Surveyor, Council Offices, Goole. Deposit £2.

June 29.—**HOUSES. Rugeley, Staffs.**—Erection of 24 houses on the Sandy Lane site at Rugeley, Staffordshire, for the Rugeley Urban District Council. Apply Mr. W. E. Rogers, surveyor to the Council. Deposit £2 2s.

June 29.—**HOUSES. Looe, Cornwall.**—Erection of 12 houses (parlour type); 4 on Beech Terrace site, and 8 on site at Hannafore, for the Looe Urban District Council. Apply Mr. C. W. Parkes Lees, L.S.A., Architect and Surveyor, Fowey.

June 29.—**ALTERATIONS, &c. Hastings.**—Alterations and repairs at their Children's Homes, 14 Edmund Road, and 121 Mount Pleasant Road, Hastings, for the Guardians. Apply Mr. T. W. Elworthy, 81 London Road, St. Leonards-on-Sea.

June 30.—**CONVERTING. Alnwick.**—Conversion of the school premises into three workmen's dwellings at the Alnwick Union Workhouse. Apply the Workhouse.

June 30.—**BUILDERS' WORK. Ashton-under-Lyne.**—Builders' work in connection with the installation of a 6,000-k.w. generator for the Ashton-under-Lyne Corporation. Apply Mr. S. Stott, Architect, York Chambers, Yorkshire Street, Oldham.

June 30.—**COTTAGES. Llanfairtreflygen.**—Erection of two workmen's cottages on Blaengwenllan site, in the parish of Llanfairtreflygen, for the Llandyssul Rural District Council. Apply Mr. Rhys Jones, Housing Architect, Llandyssul.

June 30.—**BUILDING. Newport, Salop.**—Taking down a large Y.M.C.A. building at Tern Hill, near Market Drayton, and for re-erection of same at Edgmond, Newport, Salop. Apply Mr. J. H. Ward, 5 Granville Villas, Newport, Salop.

June 30.—**HOUSES. Llandovery.**—Erection of 10 houses on various sites for the R.D.C. Apply Mr. E. H. Lewis, Architect, Lampeter. Deposit £2 2s.

June 30.—**ALTERATIONS. Bolton-upon-Dearne.**—Various works in connection with alterations and additions to Angel Hotel for Leeds and Wakefield Breweries, Ltd. Apply Newbald and Hartley, Architects and Surveyors, 1 Barston Square, Wakefield.

June 30.—**BRIDGE WORKS. St. Neot, Cornwall.**—Widening and repairing Lampen Bridge on the two-waters foot road, near St. Neot village, for the Liskeard Rural District Council. Apply Mr. J. Preston, District Surveyor, 5 Church Street, Liskeard.

June 30.—**COTTAGES. Pulborough.** Erection of thirty cottages in various parishes, for the R.D.C. Apply Mr. Percy Ayling, Clerk to the Council, Council Offices, Storrington, Pulborough.

June 30.—**REPAIRS. Wilts.**—Repairs and Renovations in various Council Schools for the Education Committee. Apply T. Walker, A.R.I.B.A., County Architect, County Architect's Dept, Trowbridge.

June 30.—**HOUSES. Matlock.**—For erection of fourteen type C and eight type B houses on the Lyn Holmes housing site, Matlock, for the Matlock Urban District Council. Apply Mr. J. Simpson, Town Hall, Matlock. Deposit 10s. for each set of quantities.

June 30.—**HOUSES. Middlesbrough.**—Erection of 300 houses at the garden colony, Marton Grove, for the Corporation. Apply Mr. S. E. Burgess, M. Inst. C.E., Borough Engineer and Surveyor, Municipal Buildings, Middlesbrough.

June 30.—**ALTERATIONS. Edinburgh.**—Alterations and adaptions at Relton Hospital, Edinburgh, for H.M. Office of Works. Apply H.M. Office of Works, 3 Parliament Square, Edinburgh. Deposit £1 1s.

June 30.—**EXTENSION. Wallasey.**—Extensions, including new children's wards, laundry block, &c., in the Victoria Central Hospital for the Wallasey War Memorial Committee. Apply Messrs. Briggs and Thornley, Architects, Royal Liver Building, Liverpool.

June 30.—**FARM HOUSE. Broughton.**—Removal of old farm building and erection and completion of new building, comprising stable, loose box, and cow-byre, at Kirby School Farm, Broughton, for the Managers. Apply The Schoolhouse, Kirby, Stokesley.

June 30.—**HUTS. Ebbw Vale.**—Erection and conversion of 4 army huts into dwellings at Waengoch District, Beaufort Rise, for the U.D.C. Apply Mr. P. T. Davies, Housing Architect, Council Offices, Ebbw Vale. Deposit £2.

July 1.—**MAISONNETTES. Battersea.**—Erection of 52 maisonnettes on the Latchmere estate, and 4 maisonnettes in Savona Street, Battersea, for the Battersea Borough Council. Apply the Town Hall, Battersea. Deposit 5s. per part.

July 1.—**HOUSES. Magor.**—Erection of 58 houses on various sites for the Magor R.D.C. Apply Messrs. Thomas, Morgan & Partners, 23, Gilliwasted Road, Pontypridd.

July 1.—**HOUSES. Darfield.**—Erection of 149 houses at Millhouses for the U.D.C. Apply Mr. Herbert Smith, Wentworth, nr. Rotherham. Deposit £2 2s.

July 1:—**REPAIRS, &c. Brackley.**—Repair, painting, and decoration, inside and out, of the Town Hall, for the Town Council. Apply Mr. A. A. Green, Borough Surveyor.

July 1.—**HUT. Barnsley.**—Erection and adaptation of army hut at Barnsley Grammar School for West Riding Education Committee. Apply Education Architect, County Hall, Wakefield.

July 1.—**WORKS. Broomhill.**—Masons' and joiners' work in 26 scullery houses to be erected on the Broomhill Estate. Apply Borough Engineer, Town Hall, Keighley.

July 1.—**HOUSES. Ogwen.**—Erection of 34 houses on various sites for the R.D.C. Apply J. Hughes-Roberts, Clerk to the Council, Tanyfynwent Offices, Bangor. Deposit £2 2s.

July 2.—**HOUSES. Heath.**—Erection of 48 houses in brickwork at Cilfriw, Crynant, and Seven Sisters, for Heath R.D.C. Apply Mr. D. M. Davies, M.Inst.M. and C.E., M.S.A., Council Offices, Heath. Deposit £2 2s. each site.

July 2.—**HOUSES. Failsworth.**—Erection of 100 brick houses at Lord Lane, Failsworth, together with drains, paths, and fencing, &c., for the U.D.C. Apply Clerk's Department, Town Hall, Failsworth. Deposit £2 2s.

(*Continued on page* xxiv.)

HOPES'
COTTAGE WINDOWS
Complete catalogue, with full particulars of stock sizes & details of construction, will be forwarded on application. This contains 15 designs of cottages by eminent Architects, & illustrates the application of HOPES' *Standard Cottage Windows to a large variety of material.*
The most practical & pleasant window in any situation. Low first cost—no repairs.
Apply SMETHWICK BIRMINGHAM *or* 59 BERNERS ST., LONDON.

CALLENDER'S DAMPCOURSES.

"Ledkore" (AND LEAD BITUMEN)

A Dampcourse with a Lead Basis.

"LEDKORE"

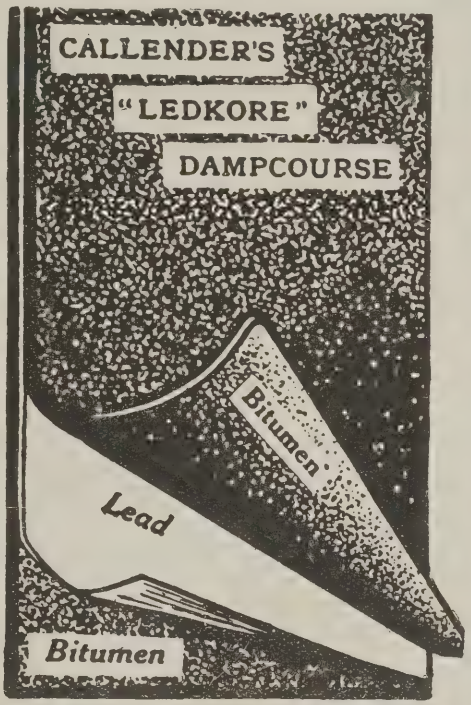
CONTAINS NO COAL TAR OR PITCH.

* *

IS UNAFFECTED BY EXTREMES OF TEMPERATURE.

* *

ELASTIC, INDEFECTIBLE.



"LEDKORE"

is

ABSOLUTELY IMPERVIOUS AND PERMANENT.

* *

Sent out in Rolls, 24 ft. long, all usual wall widths, 4½ in. to 36 in.

* *

IN THREE DIFFERENT GRADES according to thickness of lead used.

From **6½d.** per foot Super.

Composed of Successive Layers of Densely-Compressed Material of Pure Bitumen built round a Core of Sheet Lead.

ARCHITECTS WHO FAVOUR A DAMPCOURSE WITH A LEAD BASIS SHOULD SPECIFY LEDKORE.

Specified and Used in some of the Largest Housing Schemes—Chepstow, Winchester, Roehampton, Norbury, Dagenham, Tottenham, etc.

Send for Sample and Booklet 48 to

GEORGE M. CALLENDER & CO., LTD.,

25 VICTORIA STREET, WESTMINSTER,
LONDON, S.W. 1.

Telegrams:
"QUARRIABLE, LONDON."

Telephone:
4642 VICTORIA.

July 3.—**HOUSES. Millom, Cumberland.**—Erection of 25 houses on the Moor Road site, for the Millum Urban District Council. Apply Mr. H. T. Fowler, A.R.I.B.A., 6 Cornwallis Street, Barrow.

July 4.—**HOUSES. Huddersfield.**—Erection of 46 workmen's dwellings (3 blocks of 6 houses each and 7 blocks of 4 houses each) on the Grove Place Site, Long Lane, Dalton, Huddersfield, for the Corporation. Apply Mr. H. Sutcliffe, Borough Architect, 1 Peel Street, Huddersfield.

July 4. —**ALTERATIONS. Horncastle.**—For alterations, repairs, and new building in connection with the adaptation of the Horncastle Dispensary as a Cottage Hospital for War Memorial Committee. Apply Mr. F. Woeber, Foundry Street, Horncastle.

July 4.—**FARM HOUSES. Flintshire.**—Erection of farm houses and outbuildings at Gelli-Fowler Holdings, 3; and 5 at Glanllyn Uchaf (outbuildings only), for the Small Holdings Committee. Apply R. G. Whitley, A.M.I.C.E., County Surveyor and Architect, County Offices, Mold. Deposit £1 1s.

July 4.—**HOUSE. Trisillian.**—Erection of house for W. Roberts, Esq., The Mill, Trisillian. Apply Alfred J. Cornelius, F.S.A., Architect, Truro.

July 4. —**HOUSES. Hemsworth.** —Erection and completion of 30 houses, part of Highfield (No. 2) Housing Scheme, for the U.D.C. Apply Mr. W. T. Lynam, Council Offices, Hemsworth. Deposit £1 1s.

July 4.—**HOUSES. Hemsworth.**—Erection of 56 houses in connection with Barnsley Road (No. 2) Housing Scheme for the U.D.C. Apply Mr. T. H. Richardson, Field Head, Brierly. Deposit £1 1s.

July 4.—**BUILDINGS. Glamorgan.**—Erection of a cottage, a set of farm buildings, repairs and adaptations to the existing cottage known as Broadway Cottage, and the formation of two drinking pools, at Court Farm, St. Mary Hill, near Pencoed, for the Glamorgan County Council. Apply Police Station, Pencoed, and 30 Park Place, Cardiff.

July 4.—**SORTING OFFICE. Oldham.**—Erection of new sorting office for H.M. Office of Works. Apply Contracts Branch, H.M.O.W., King Charles Street, S.W.1. Deposit £1 1s

July 4.—**HOUSES. Rhymney.**—Erection of 100 brick built houses in pairs for the U.D.C. Apply A. F. Webb, Esq., M.S.A., Tredegar Chambers, Blackwood, Mon. Deposit £4.

July 4.—**HOUSES. Beccles.**—Erection of 12 houses on St. Mary's Road site, Beccles, for the Corporation. Apply Town Clerk's Office, Blyburgate, Beccles, or Mr. H. Munro Cautley, The Thorofare Butter Market, Ipswich. Deposit £2 2s.

July 4.—**HOUSES. Patching.**—Erection of 12 houses at Carden Avenue, Patching, for the Steyning East R.D.C. Apply Surveyor's Office, Town Hall, Southwick. Deposit £1 1s.

July 4.—**HOUSES. Devizes.**—Erection of the first section of the housing scheme, consisting of 28 houses, on the Southbroom site, for the Town Council. Apply Mr. J. T. Jackson, Town Clerk, Devizes.

July 4.—**HOUSES. Alfreton.**—Erection of 54 houses on the Mansfield Road site, Alfreton, and 20 houses at Swanwick, for the Alfreton Urban District Council. Apply Mr. Bailey Deeping, 12 Gluman Gate, Chesterfield.

July 4. —**MONUMENT. Ashton - under - Lyne.**—Erection of a monument in Ashton-under-Lyne containing about 1,100 cubic feet of Portland stone for War Memorial Committee. Apply Mr. P. Howard, A.R.I.B.A., Architect, 88 Mosley Street, Manchester. Deposit £1 1s.

July 4.—**BUILDINGS. West Riding.**—Erection of (*a*) 8 single houses with all site works; (*b*) 6 pairs of cottages with all site works; (*c*) 7 pairs of small outbuildings; (*d*) 1 single outbuilding; (*e*) 1 small set farm buildings, at Whitley, Yorkshire, for the Small Holdings Sub-committee. Apply County Land Agent, County Hall, Wakefield. Deposit £1 each.

July 5.—**EXTENSIONS. Heswall.**—Erection of sergeant's house and offices at County Police Station at Heswall. Apply H. Beswick, F.R.I.B.A., County Architect, Chester. Deposit £1 1s.

July 5.—**PARTITIONS, &c. Glamorgan.**—(1) Folding partitions at the following schools: Abertridwr Mixed, and Coedybrain (Llanbradach) Infants. (2) Improvements to playground at Deri Mixed School. (3) Painting various schools, &c., for Glamorgan County Council. Apply T. Mansel Franklen, Secretary Education Committee, Glamorgan County Hall, Cardiff.

July 5.—**HOUSES. Sevenoaks.**—Erection of 21 houses as follows for the R.D.C.: Crockham Hill, 3 pairs; Bough Beech, 3 pairs; Leigh, 4 pairs; Penshurst, detached cottage. Apply the Architect, Mr. Percy F. Potter, 49 London Road, Sevenoaks. Deposit £2 2s.

July 5.—**GRAIN ELEVATORS. South Africa.**—The South African Railways and Harbours authorities have extended the date for tenders for grain elevators to July 5, 1921. Apply Mr. R. A. Blankenberg, Secretary, Office of the High Commissioner for the Union of South Africa, Trafalgar Square, W.C 2.

July 5.—**HOUSES. Buxton.**—Completion of 40 brick houses in King's Road, Fairfield, and Heath Grove, Buxton, in blocks of two, three and four houses, for the Town Council. Apply Mr. F. Langley, Borough Engineer and Surveyor, Town Hall, Buxton. Deposit £1 1s. per set of quantities.

July 6.—**HOUSES. Barnsley.**—Erection of 90 houses on the Wilthorpe site, Huddersfield Road, Barnsley, for the Borough Council. Apply Mr. C. F. Moxon, Architect, 3 Regent Street, South Barnsley. Deposit £2.

July 6.—**HOUSES. Ulverston.** —Erection of 2 semi-detached houses at Lightburn Park, Ulverston, for Mr. T. Brown. Apply J. W. Grundy & Son, F.R.I.B.A., Architects and Surveyors, Central Buildings, Ulverston.

July 6.—**HOUSES. Gisborough.**—Erection of 24 houses, together with drains and fencing, for the M.D.C. Apply Mr. William S. Holt, Architect, 61 Albert Road, Middlesborough. Deposit £2 2s.

July 8.—**ALTERATIONS, &c. Aberdeen.**—Alterations, adaptations, &c., to Oldmill Hospital, Aberdeen, for the Commissioners of His Majesty's Works. Apply Secretary Joint (Disablement) Committee, Northern Scotland, 40 Union Street, Aberdeen. Deposit £1 1s.

July 9.—**ALTERATIONS AND ADDITIONS. Lancashire.**—Alterations and additions to Rufford Sanatorium for Lancashire County Council. Apply Mr. Henry Littler, 16 Ribblesdale Place, Preston. Deposit £2.

July 11.—**HOUSES. Hampton.**—Completion of 16 houses in pairs at Priory Road Site, Hampton, for the U.D.C. Apply Sidney H. Chambers, Surveyor to the Council Public Offices, Hampton, Middlesex. Deposit £2 2s.

July 11. —**HOUSES. Bolton-upon-Dearne.**—Erection of 76 houses and construction of roads and sewers in connection therewith off Doncaster Road, Goldthorpe. Apply Messrs. Garside and Pennington, Ropergate, Pontefract.

July 12.—**TELEPHONE EXCHANGE. Gateshead.**—Erection of new telephone exchange at Gateshead for the Commissioners of His Majesty's Works. Apply H.M. Office of Works, 63 Westgate Road, Newcastle-on-Tyne, and Contracts Branch, H.M.O.W., King Charles Street, S.W. 1. Deposit £1 1s.

July 13. —**ALTERATIONS. Cleethorpes.** —Reinstatement and extension of Council Offices, for the Cleethorpes Urban District Council. Apply Mr. H. C. Scaping, Architect, Court Chambers, Grimsby. Deposit £2 2s.

July 14.—**HOUSES. Worthing.**—Erection of 68 houses in blocks of 4 of three different types, on the South Farm road site, for the Corporation. Apply Mr. S. C. Phillips, Housing Surveyor, Municipal Offices, Worthing. Deposit £2 2s.

July 15. —**ALTERATIONS AND REPAIRS. Cowes.**–Alterations and repairs to East Cowes Barracks, Medina Road, East Cowes, Isle of Wight. Apply C. W. Bevis & Son, A.R.I.B.A., Elm Grove Chambers, Southsea. Deposit £2 2s.

July 15.—**HOUSES. Heywood.**—Erection of 10 houses in pairs at Barley Hall, Heywood, for the Corporation. Apply Messrs. J. T. Proffet & Sons, Architects, Memorial Road, Walkden, near Manchester. Deposit £2 2s.

(*Continued on page* xxvi.)

MEASURES BROS. 1911 LTD.

Section Sheets
and
Estimates
on
Application.

Telegrams:
"Measures, London."

STEEL JOISTS

Structural Steelwork
— OF —
Every Description.

Prompt
Delivery from
Stock at Lowest
Market Prices.

Telephone Nos.:
585, 586 & 2103 Hop.

SOUTHWARK STREET, LONDON, S.E.

TRADE MARK

Established 1823.

The Hall Mark of quality.

McNEILL'S FAMOUS FELTS

Original Patentees

Lion Brand

Highest Grade Roofings

AND PURE BITUMEN DAMPCOURSES

Supplied in all the usual wall Widths.

ARE THE BEST.

Widely adopted for Housing Schemes.

F. McNEILL & CO., LTD.,
General Offices:
4 SOUTH PLACE, E.C.2.

Telephone:
CLERKENWELL 1643 (2 lines).
Telegrams:
"EYEBALL," LONDON.

ROOFING, SARKING, SHEATHING, INODOROUS & HAIR FELTS, FLEXSLATE, ROOFTITE, WEATHERTITE, & MASTIC ROOFINGS. SLAGBESTOS (McNeill's Patent Slagwool), **STYXOL,** a permanent Rustproof Bitumen Solution for Iron and Steel Work. **LION ROOFING** in rolls 24 yds. by 1 yd.

A WORD ABOUT BUILDING STONE

The cost of Building is still high, and Architects are frequently compelled to "cut out" items which are not absolutely essential. By the adoption of "Empire Stone" this cutting down may be obviated.

The cost of "Empire Stone" is very considerably less than that of natural stone—its durability is proved, and on the vexed question of the appearance of artificial stone we would request your particular consideration of our material.

May we send you a sample and quotation?

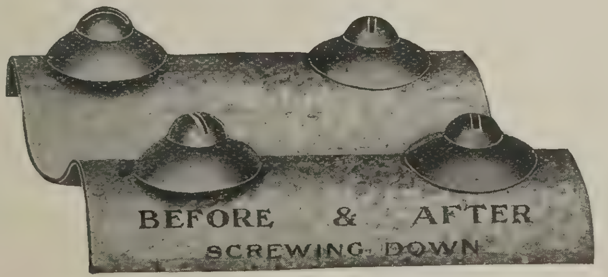
NARBOROUGH
Near
LEICESTER
Tel.:
Narborough 3

EMPIRE STONE COMPANY LTD.
THANET HOUSE, 231 STRAND, LONDON, W.C. 2
Tel.: GERRARD 8152.

WINCHESTER HOUSE,
VICTORIA SQUARE,
BIRMINGHAM
Tel.:
Central 7184

"LIMPET" PATENT BOLTS & WASHERS

For CORRUGATED IRON SHEETS and Asbestos Cement Corrugated Sheets



"Limpet" Washers make an Absolutely Watertight Joint. They prevent Leakage and Corrosion round the Bolt Holes.
ADOPTED BY THE INDIAN GOVERNMENT, CROWN AGENTS FOR THE COLONIES, AND THE LEADING RAILWAY CO.S.

PRICE'S PATENT

The most approved Fixing for Joining Corrugated Iron Sheeting together.

REGISTERED TRADE MARK
LIMPET

Full Particulars and Samples from
WILLIAM JACKS & CO. 5 East India Avenue, LONDON E.C.3
Agent for Scotland: FRANK G. PRICE & Co., 115 Bothwell St., Glasgow.

July 26.—**WATER WORKS. Bombay.**—The invitation for tenders for the construction of 105 miles of steel and reinforced concrete pipe lines, in connexion with the water scheme for the Corporation, has been extended to July 26. Apply Messrs. J. Taylor & Son, 36 Victoria Street. Deposit, £2.

August 20.—**SALVAGE PLANT. Mansfield.**—Erection of salvage plant at the Health Depot, comprising; (1) Refuse screening plant in two units, with total capacity of 100 tons per day, cinder washers, elevators, and conveyors; (2) steel-framed building; (3) extension of tipping platform for the T.C. Apply Mr. Waude Thompson, Borough Engineer, Market Street, Mansfield. Deposit, £2 2s.

No Date.—**REPAIRS, &c. Ardsley, &c., Yorks.**—For repairs and renovations to Council Schools in Ardsley (East and West), Rothwell, Sharlston, Stanley and Outwood districts. Apply Mr. R. Beaumont, West Riding Education Offices, 8 St. John's North, Wakefield.

No Date.—**HOUSES. Belper.**—Erection of 20 houses at Denby, on main road between Derby and Ripley, for the Belper Rural District Council. Apply Mr. H. G. Smith, 69 Loughborough Road, Nottingham.

No Date.—**REPAIRS, &c. Hornsey.**—Carrying out repairs, decorations, alterations, and the provision of a wood block floor, at the various schools maintained by the Council, during the midsummer holidays, for the Hornsey Education Committee. Apply Mr. A. W. Allen, Secretary, 206 Stapleton Hall Road, Stroud Green, N.4.

No Date.—**DEPARTMENT. Mirfield.**—For the erection of large wooden fish and fruit department at No. 2 branch, Knowl, for the Mirfield Industrial Cooperative Society, Mirfield. Apply General Manager's Office, Knowl Road, Mirfield.

No Date.—**HOUSES. Penarth.**—Erection of 32 B class houses, in pairs, at Cornerswell Gardens, Penarth, for the Penarth Public Utility (Housing) Society, Ltd. Apply Mr. A. C. Huffell, Architect and Surveyor, Lloyds Bank Chambers, Windsor Road, Penarth.

No Date.—**HOUSES. Ross, Hereford.**—Erection of 14 houses (parlour type), in pairs, as follows, for the Ross Urban District Council:—Camp Road site, 10 houses; Duxmere site, four houses. Apply Hereford Associated Architects, Ltd., Palace Chambers, King Street, Hereford. Deposit £2 2s.

No Date.—**THEATRE. Sheffield.**—For any or all trades required in erection of a new picture theatre in Sheffield. Apply Mr. P. A. Hinchliffe, F.R.I.B.A., 14 Regent Street, Barnsley.

ELECTRICAL.

July 4.—**SWITCHGEAR, &c. Islington.**—Supply, delivery and erection at the electricity works of high-tension switchgear, suitable for single phase, 2,500 volts, for the Islington Borough Council. Apply Chief Engineer, 50 Eden Grove, Holloway, N. 7.

July 7.—**TURBO-ALTERNATOR. Malta.**—The Government of Malta invite tenders for 1,000-k.w. steam turbo-alternator, 2,200 to 2,500 volts, single-phase, 100 cycles. Apply Agents for the Colonies, 4 Millbank, London, S.W. 1. Tenders will be received at Malta up to July 7.

July 11.—**PLANT, &c. London, S.W.**—Supply, delivery, and erection of (a) one 8,000 k.w. steam turbo-alternator and exciter condensing plant, &c.; (b) seven 1,000 k.w. rotary converters, static transformers and accessories, for the London County Council. Apply Clerk of the Council, County Hall, Spring Gardens, S.W.1. Deposit £2.

ENGINEERING.

July 1.—**PENSTOCK VALVES, &c. Huyton-with-Roby, Lancs.**—For supplying and fixing new Penstock valves to the tanks at the sewage disposal works, for the Urban District Council. Apply Mr. H. Finister, P.A.S.I., Surveyor, Public Offices, Huyton.

July 2.—**WIDENING BRIDGE. London—Epsom.** Labour and materials required in connection with the widening of Pylford Bridge on the London—Epsom Road, for the Surrey County Council. Apply Office of the County Surveyor, County Hall, Kingston-on-Thames.

July 4.—**QUAY WALL. Ghent, Belgium.**—Construction of a quay wall, the cost of which is estimated at 4,010,000 francs. Apply Department of Overseas Trade. Deposit 50,000 francs.

PAINTING.

June 30—**PAINTING. Edinburgh.** Painter work at George Heriot's School, Heriot-Watt College and Trust offices, for the George Heriot's Trust. Apply Mr. J. Anderson, F.S.I., Superintendent of Works.

June 30.—**CLEANING, &c. Southend-on-Sea.**—For cleaning, painting and decorating at various Council elementary and secondary schools, for the Education Committee. Apply Mr. R. H. Dyer, Borough Engineer. Deposit £1 1s.

July 1.—**CLEANING AND PAINTING. Enderby, Leics.**—Cleaning and painting the lower infirmary wards at their Institution at Enderby, for the Guardians of Blaby Union. Apply Master.

July 1.—**PAINTING. Swansea.**—Internal painting of 11 Council Schools during the month of August next. Apply the Borough Architect, 3 Prospect Place.

July 1.—**PAINTING. Ely.** Painting externally the barracks houses, Silver Street, Ely, for the Ely Urban District Council. Apply Surveyor's Office, Silver Street, Ely.

July 1.—**PAINTING, &c. Peterborough.** Painting and decorating the several Council Schools, for the City Education Authority. Apply Mr. J. L. Jolly, Surveyor, City Surveyor's Office, Broadway.

July 2.—**PAINTING. Huddersfield.** Painting the exterior woodwork and ironwork at the Model Lodging-House, Chapel Hill, for the Corporation. Apply Mr. H. Sutcliffe, Borough Architect, 1 Peel Street.

July 2.—**PAINTING, &c. Chelmsford.** Painting and repairs to military block at isolation hospital, Baddow Road, Chelmsford, for the Chelmsford Joint Hospital Board. Apply Messrs. C. and W. H. Partwee, Architects, Chelmsford.

July 2.—**PAINTING, &c. Ebbw Vale, Mon.** For the following works for the Ebbw Vale Education Committee:—(Contract A) painting and colouring the inside of Rassau Schools; (B) painting and colouring the inside of Roman Cotholic Schools; (C) painting and colouring the inside of Victoria Schools; and (D) painting and colouring the inside of Cwmyrdderch Schools. Apply office of the Town Surveyor.

July 2.—**PAINTING, &c. York.**—Painting, colouring and limewhiting, to be carried out at certain schools during the summer holidays, for the City of York Education Committee. Apply Mr. J. H. Mason, Secretary, Education Offices, York.

July 2.—**PAINTING. Goole.** Painting, etc., of the Goole Pasture Road Council School, for the Goole Education Sub-Committee. Apply Mr. E. L. Harrap, West Riding Education Offices, Goole.

July 4.—**PAINTING. Huddersfield.** Painting, colouring, etc., at the various Schools, and Educational Offices, for the Corporation. Apply Mr. H. Sutcliffe, Borough Architect, 1 Peel Street, Huddersfield.

July 4.—**PAINTING. Bingley, Yorks.** Painting at the cemetery, for the Bingley Burial Board. Apply the office.

July 6.—**PAINTING. Prestwich, Lancs.**—Interior decorating and exterior painting at Prestwich Hope Park Council School and for interior decorating at Heaton Park Council School, for the Lancashire Education Committee. Apply the County Architect, Mr. H. Littler, 16 Ribblesdale Place, Preston.

July 6.—**PAINTING. Prestwich, Lancs.** For interior decorating and exterior painting at Prestwich Hope Park Council School and for tnterior decorating at Heaton Park Council School, for the Lancashire Education Committee. Apply County Architect, Mr. H. Littler, 16 Ribblesdale Place, Preston.

July 12.—**PAINTING, &c. Thorne, Yorks.**—For the painting, &c., of the Thorne Council School, for the Thorne Education Sub-Committee. Apply Mr. E. L. Harrap, West Riding Education Offices, Goole.

ROADS AND SEWERS.

Sept. 9.—**FILTERS. Johannesburg.**—H.M. Senior Trade Commissioner, South Africa, has forwarded to the Department of Overseas Trade a copy of the specifications, &c., in connection with a call for tenders by the Rand Water Board for the supply, delivery and erection of a complete installation of mechanical or other filters capable of filtering 5½ million gallons of water per 24 hours at the Vereeniging main pumping station. Apply Inquiry Room of the Department of Overseas Trade, 35 Old Queen Street, Westminster, S.W.1. Deposit £3 3s.

The Institute of Mechanical Engineers

LONDON SUMMER MEETING.

A Conference is to be held in the Institution of Mechanical Engineers' building, Storey's Gate, London, S.W., commencing on Thursday, June 30, at 10.15 a.m., when the President will open the proceedings. The Conference, which will be of an informal nature, will deal with the question of "Means of Improving the Thermal Efficiency of Heat Power Plants," and short papers (as mentioned below) will be discussed concurrently in the Library, Reading Room, Council Room, and Committee Room.

The programme of the meeting is as follows:—

Opening of Conference.

Thursday, June 30.

LIBRARY.

10.15.—General Meeting, and opening a.m. remarks by the President.

Reception of American Engineers.

Papers.

LIBRARY.

Chairman: Mr. Richard W. Allen, C.B.E., *Member of Council.*

10.45.—"Internal-Combustion Engine Theory, with relation to Higher Economy"; by H. E. Wimperis.

11.45.—"High Steam-Pressure and other means of increasing Economy of Steam-Engines"; by Frederick Samuelson, *Member.*

READING ROOM.

Chairman: Dr. H. S. Hele-Shaw, F.R.S., *Vice-President.*

10.45.—"Chemistry of Combustion"; by a.m. E. V. Evans, O.B.E., F.I.C.

11.45.—"Blast-Furnace Gases"; by Alfred Hutchinson and F. Bainbridge.

COUNCIL ROOM.

Chairman: Mr. William H. Patchell, *Vice-President.*

10.45—"Boiler-House Management (General Causes of Boiler Inefficiency)"; by David Wilson.

11.45—"Low Temperature Carbonization"; by Prof. W. Bone, D.Sc., F.R.S.

COMMITTEE ROOM.

Chairman: Mr. F. H. Livens, *Member of Council.*

10.45—"Engine-House Management (General Causes of Steam-Engine Inefficiency)"; by Hubert Dunell, O.B.E., *Associate Member.*

11.45—"Super-Compression"; by Alan E. L. Chorlton, C.B.E., *Member of Council.*

Adjourn at 12.45 p.m.

Friday, July 1.

LIBRARY.

Chairman: Sir John Dewrance, K.B.E., *Vice-President.*

10.30—"Waste Heat Utilization"; by Robert Nelson.

11.45—"Superheating"; by Sir Henry Fowler, K.B.E., *Member of Council.*

READING ROOM.

Chairman: Mr. Loughnan Pendred, *Member of Council.*

10.30—"Liquid, Colloidal, and Powdered Fuels"; by W. R. Ormandy, D.Sc., F.I.C.

11.45—"Liquid Fuels (Internal-Combustion Engines)"; by Harold Moore, M.Sc.

COUNCIL ROOM.

Chairman: Mr. Daniel Adamson, *Member of Council.*

10.30—"Automatic Stokers"; by A. W. Bennis, *Member.*

11.45—"Air Heating for Boiler Furnaces"; by William H. Patchell, *Vice-President.*

COMMITTEE ROOM.

Chairman: Dr. T. E. Stanton, C.B.E., F.R.S., *Member of Council.*

10.30—"Feed-Heating and Economisers"; by C. E. Stromeyer, O.B.E., *Member.*

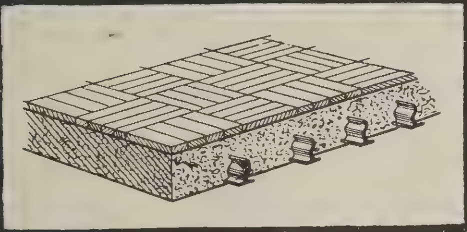
11.45—"The Indicator as an Aid to Economy"; by Prof. W. E. Dalby, F.R.S., *Member of Council.*

Adjourn at 12.45 p.m.

Visits to Power Stations and Laboratories

Invitations have been received from the chief engineers of various power stations and the heads of laboratories in the London district for visits to be made on the *afternoons of* Thursday, June 30, and Friday, July 1. Members desiring to visit any stations or laboratories should inform the Secretary as soon as possible, *as the number of tickets is limited.* Tickets will be issued at the office during the meeting to those who have previously applied for them.

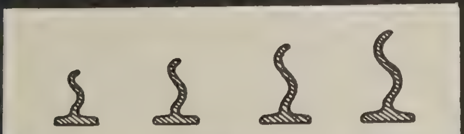
HOMAN & RODGERS
PATENT
FIRE RESISTING
FLOORS & ROOFS



Maximum Strength
at Minimum Cost

WOOD BLOCKS
GRANITIC FINISH
SEYSSEL ASPHALTE

CONSTRUCTIONAL·STEELWORK



Tel. Add.
NAMOH.

Tel. No
637 City.

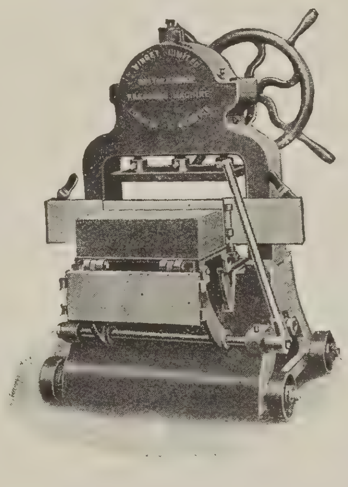
Drawings, Estimates, Free on receipt of Particulars.

10, Marsden Street,
MANCHESTER.

"WINGET"
MACHINES
FOR ALL
CONCRETE WORK

The "WINGET" PRESSURE MACHINE

THREE batteries of these machines are turning out concrete blocks at Becontree for the London County Council's Housing Scheme, visited last week by Members of the Institution of Municipal and County Engineers.



Front view showing the moulding box open,
with the finished block ready to be carried off.

THE "Winget" Pressure Machine can be worked with the lightest of unskilled labour, and has proved its capacity to produce both blocks and slabs of the highest quality at a minimum cost. Anyone can work it efficiently.

WINGET LIMITED

Head and Registered Office:
WINGET HOUSE,
24B Grosvenor Gardens,
Westminster, S.W.1.

Foundry and Engineering Works:
THE CAPE,
Warwick.

TRADE WINGET MARK

THE JOURNAL "WANTED" ADVERTISEMENT COLUMNS.

Appointments Wanted.

Four lines or under, 2s. 6d.; each additional line, 6d.

A GENTLEMAN, with sixteen years' all-round reinforced concrete (and general building) experience, including practical construction and management, well recommended, requires engagement. For particulars, address Box 765.

COMPETENT ARCHITECT'S ASSISTANT disengaged. Facile designer and detailist; effective perspectives, quantities.—Architect, c.o. 60 West Street, St. Philip's, Bristol. 694

FULLY-QUALIFIED practical and artistic Architect's Assistant disengaged.—T., 13 Highfield Avenue, Grimsby.

HIGH-CLASS DESIGNS, details, perspectives, and bird's-eye views.—Temple, c.o. 24 Harrington Square, London, N.W.1.

IMPROVER (Electrical); age 21; lifts preferred; 2½ years' experience.—Box 582.

SURVEYOR with over 20 years' practical experience surveys for Architects, Contractors, and others. Structural work, specifications, dilapidations, quantities, and estimates.—Box 902.

THE ASSOCIATION OF BUILDERS' FOREMEN AND CLERKS, 56 Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 6 Binfield Road, Clapham, S.W.4. Competent Foremen and Clerks of Works are invited to join this Association.

This space has been placed at the disposal of the **District Director, Ministry of Labour, 3-4 Clement's Inn, W.C.,** to whom all replies should be addressed, quoting number of advertisement, date of issue, and the name of this Journal.

ARCHITECT OR BUILDER'S ASSISTANT. Age 27. War Service 4 years. Educated Public School. 8 years' experience. Thorough Architectural training. 5463/21

ARCHITECT OR SURVEYOR'S ASSISTANT. Age 28. Single. War Service 4 years. M.S.A. 8 years' experience as Building Surveyor, Draughtsman, and Architect. 62286

FOR ARCHITECTURAL POST. Age 34. Single, Lieut. Served 6 years' articles, qualified architect. Suitable for managerial post in large architectural firm. 90437

SUPERINTENDENT OF ROADS. Age 33. Married. 11 years' experience as Assistant Departmental Manager and Road Superintendent for flooring and paving company. Thorough knowledge wood block flooring. Willing to go abroad. 3062/21

SURVEYOR, VALUER, AND MANAGER OF PROPERTY. Age 50. Married. Captain. 33 years' experience in dealing with property, including 20 years' practising on own account, as house and estate agent, surveyor, and valuer. 358/21

AS GENERAL ASST. AND VALUER IN SURVEYORS', AUCTIONEERS AND ESTATE AGENTS' OFFICE. Age 23. Single. 2nd Lieut. Passed Intermediate Surveyors' (Valuation Sub-Section). 3 years' practical experience. 8619

AS AGENT OR MANAGER FOR AGRICULTURAL ESTATE. Age 41. Married. Lieut. Thorough knowledge Agriculture, Farm, Valuation Stock Markets, Auctions, Negotiations, Surveying and Estate development. 8273

ARCHITECTURAL. 2nd Lieut. Age 47. Married. War Service 8 months. Educated Merchant Taylors' School. F.R.I.B.A. 30 years' Architectural experience, with special knowledge of tropical requirements. 40064

DRAUGHTSMAN. (Naval or Aero.) Age 28. Single. Lieut. War Service 4 years. 9 years' experience in Naval Architects. 2 years' Aeroplane Design and Construction experience. 4585/21

Appointments Vacant.

Four lines or under, 4s.; each additional line, 1s.

BOROUGH OF KINGSTON-UPON-THAMES.
TECHNICAL INSTITUTE.

WANTED, for the Evening Classes for the Autumn Term, commencing September 26th, Instructors in Land Surveying and Builders' Quantities.

Salary in accordance with the scale of salaries of the Surrey Education Committee for Technical Institutes.

Forms of application may be obtained from the undersigned at the Education Office, Technical Institute, Kingston-upon-Thames.

H. T. ROBERTS, B.A.,
Education Secretary.

Educational Announcements.

Four lines or under, 4s.; each additional line, 1s.

EXAMINATIONS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.
Correspondence Preparation by
Mr. W. HERBERT HOBDAY, F.R.I.B.A.

These courses are conducted on the soundest educational lines, and every possible assistance is given to candidates.

For full particulars of Courses and Fees, apply
196 Upper Clapton Road, E.5
(late of 5 Bedford Row).

The TUTORIAL TECHNICAL ASSOCIATION.

ARCHITECTURE & BUILDING, ENGINEERING
SURVEYING & AUCTIONEERING.

Prepares Candidates for the Examinations of Royal Institute of British Architects; Society of Architects; Surveyors' Institution; Royal Sanitary Institute; and all Engineering Examinations.

Studies arranged and conducted either by Correspondence, in Class or Personally, by W. R. E. Honner, M.Eng., A.M.Inst.C.E. (Engineering), J. B. Knowles, F.S.I. (Surveying and Auctioneering and Agricultural Subjects), E. Godfrey Page, A.R.I.B.A. (Architecture, etc.). Practical Experience. Individual Attention. Moderate Fees.

Write to Lieut.-Col. H. W. Hamlett (Business Director), The Tutorial Technical Association, 7 Harpur Street, London, W.C. 1.

Telephone: Museum 6715.

Tenders.

Six lines or under, 8s.; each additional line, 1s.

WAR DEPARTMENT CONTRACT FOR REPAIR AND MATERIALS.

TENDERS are required for the Triennial Contract, from 1st August, 1921, in the following Engineer Districts in the Western Command:—

CARDIFF;
BARRY AND OUTSTATIONS;
BRECON;
RHYL HUTMENTS.

Royal Engineer Office, 3 Belmont, Shrewsbury.

Forms of Tender, Conditions of Contract, and all necessary information, may be obtained at the above Engineer Office by letter, addressed to the Commanding Royal Engineer, or in person, between the hours of 10 a.m. and 1 p.m., up to 16th July, 1921. Tenders may be submitted for each Contract, and are to be forwarded to the Commanding Royal Engineer at the above address.

H. W. GORDON, Colonel.
Commanding Royal Engineer,
Welsh Area.

Engineer Office,
21st June, 1921.
H.R.L.

914

TO BUILDERS.

The Commissioners of His Majesty's Works, etc., are prepared to receive Tenders before 11 a.m. on Wednesday the 20th July, 1921, for the FIREPROOFING of certain Galleries at the NATIONAL GALLERY, LONDON, W.C. 2.

Drawings, Specification, and a Copy of the Conditions and Form of Contract, may be seen on application at H.M. Office of Works, London, S.W. 1.

Bills of Quantities and Forms of Tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W. 1, on payment of One Guinea. Cheques payable to the Secretary, H.M. Office of Works. The sums so paid will be returned to those persons who send in Tenders in conformity with the conditions. 915

RHYMNEY URBAN DISTRICT COUNCIL.
HOUSING TENDERS.

TENDERS are invited for the ERECTION of 100 Brickbuilt HOUSES (in pairs), to be completed before the 1st of August, 1922. The Plans, Specifications, and Form of Contract may be seen during usual business hours at the Office (Tredegar Chambers, Blackwood, Mon.), of A. F. Webb, Esq., M S.A., the Architect for the Scheme.

Copies of the Bills of Quantities and Forms of Tender may be obtained from the Architect, on payment of a fee of £4, which will be returned on receipt of a bona-fide Tender. Tenders, sealed, and endorsed "Housing Tender," must be delivered before Twelve Noon on MONDAY, 4th JULY, next to:—

W. H. TRUMP, Esq.
Clerk to the Rhymney Urban District Council.

57 High Street,
Rhymney (Mon.),
June, 1921.

For Sale.

Six lines or under, 8s.; each additional line 1s.

CONCRETE SLABS. Quick delivery guaranteed; any quantities; 2 in., 2½ in., 3 in., 3½ in., and 4 in. thickness by 12 in. by 24 in. Lowest prices.—Victor Concrete Construction Co., 87 Allison Road, N. 8.

OFFICE FURNITURE FOR SALE. Oak Pedestal and Admiralty Tables, Single and Double Slope Desks, Plan Pressers, etc.. Apply, A. J. Lansdell, 14/16 Cockspur Street, S.W. 1. 909

PLANING MACHINE for Sale in good condition 26 in. knives by J. Sutcliffe & Son, Halifax. Apply Hunt, Edmunds & Co., Ltd.. Banbury. 911

ARCHITECT wishes to dispose of 3½ Rudge-Multi I.O.M. Practically new. All on. £75 or nearest. Box 913

Miscellaneous.

Four lines or under, 4s.; each additional line, 1s.

BOOKS on Building, Architecture, Engineering, Technical, and all other subjects; 1,000,000 vols. second-hand and new in stock; catalogues free; state wants; books sent on approval; books bought; best prices given.—W. and G. Foyle, Ltd., 121-125 Charing Cross Road, London, W.C.

GOING ABROAD. Architect has a few new Architectural (History etc.,) Books for Sale. Suit Students qualifying for R.I.B.A. Send Stamped Envelope for List. J. A. Dobson, Oakenshaw, Bradford, Yorks. 912

SECOND-HAND Optical Mart.
For the Purchase and Sale of
LEVELS, THEODOLITES, DRAWING INSTRS.—Clarkson's, 338 High Holborn, London, W.C. (opposite Gray's Inn Road).

STRODE & CO., LTD., Engineers and Metal Workers, Manufacturers of Aero, Marine, and Automobile Engine Parts, Contractors for Lighting and Power, Heating and Ventilation. — 48 Osnaburgh Street, London, N.W.1, and 18 Easy Row, Birmingham.

WANTED.—"Leaning's Quantity Surveying."—Technical Journals, Ltd., 27-29 Tothill Street, Westminster, S.W.1.

Auctions.

Six lines or under, 8s; each additional line, 1s.

Without Reserve.

By order of Messrs. G. E. Gray, Ltd., owing to the Estate having been disposed of.

DORKING, SURREY.

MESSRS. JOSEPH HIBBARD & SONS have been instructed to SELL BY PUBLIC AUCTION, upon the MILL SITE in Headley-lane, Mickleham (adjoining Warren Farm, 2½ miles from Dorking), on WEDNESDAY, 6th JULY, 1921, at 1 o'clock precisely, SAW-MILL PLANT, MACHINERY, TIMBER, ROLLING STOCK, and STORES,

including

8-h.p. Portable Engine, by Brown & May;
40-h.p. Hornsby Stockport Gas Engine;
Complete Suction Gas Plant;
8-h.p. Portable Oil Engine, by Hornsby Akroyd;
Single Rack Bench, with 30 ft. Steel Table, by Easton & Johnson;
4 ft. Double Horizontal Log Frame, by T. Robinson & Son, with 24 ft. Travelling Bed;
8 ft. Robinson's Circular Saw Bench; 6 ft. Ransom's Circular Saw Bench; 6 ft. Sagar's Circular Saw Bench; Two Stenner & Gunn Circular Saw Benches; Stennings' Circular Saw Bench;
Haigh's Fourcutter and Moulding Machine, to take 3 × 5;
Sagar's Gulleting Machine; Worthington's Semi-Rotary Pump;
Worthington Simpson's Automatic Pump;
20 Circular Saws, Steel Shafting, Leather Belting, 30 cwt. Crane, Endless Chains and Blocks. Draw Chains, Rolling Chains, Binding Chains, 4 tons Coal, Bogey Trollies, and Rail.

ROLLING STOCK,
including
NINE HEAVY MAN-HORSES,

Four Heavy Timber Carriages, 9 Heavy and Light Timber Trollies, 3 Timber Bobs, 10 Sets of Single Harness;

STOCK OF WELL-CUT TIMBER,
including

1,000 feet cube Beech Baulk;
50,000 feet Beech Planking, from 1½ in. to 3 in.;
100 feet cube ½ in.; Quartered Beech, 200 Beech Wrest Planks, 2,000 feet cube ¾ × 2 to 6 Larch and Spruce Boards;
10,000 feet 2 × 4 to 5 Larch Battens, 15,000 feet 1 × 4 to 9 Larch Boards, 5,000 feet Feather-edge Boards, Larch Scantling, 70 Squares, ⅝ to ¾ in. Matching, 40 Squares 1 in. Flooring, 3,000 feet 1 × 8 to 11 Planed Boards, Oak Gate Posts and Pales, and other Timber;
5,000 LARCH POLES, from 20 ft. to 40 ft.;

BUILDINGS,
including

G.I. Roof Timber Store, 60 × 30; G.I. Engine-Shed, 30 × 33; G.I. Roof Sill, 110 × 30; G.I. Office Erections and Buildings;

STORES,
including,

G.I. Tanks. Cylinder and other Oil, Lamps, and numerous other items.

On view day prior to Sale and Sale morning.

Catalogues can be obtained upon application to the Auctioneers, at their offices—

15, Newington Green, London, N. 1; and
18, High-street, Brentwood, Essex.

Telephone Nos.: Dalston 16 and Brentwood 164.
Telegraphic Address: "Archlike, Hibury, London."

Publishers' Notices.

Offices: ADVERTISEMENTS, EDITORIAL, COUNTING HOUSE, AND PUBLISHING—27-29 Tothill Street, Westminster.

Telegraphic Address: "Buildable, Vic., London."

Telephone: ADVERTISEMENTS, EDITORIAL, COUNTING HOUSE, AND PUBLISHING—6936 Victoria (2 lines).

Date of Publication—THE ARCHITECTS' JOURNAL is published every Wednesday, price 6d.

The Subscription Rates per annum are as follows:—

	£	s.	d.
At all newsagents and bookstalls.........	1	6	0
By post in the United Kingdom	1	7	6
By post to Canada.............................	1	10	0
By post elsewhere abroad	1	12	6

Subscribers can have their volumes bound complete with Index, in cloth cases, at a cost of 10s. each. Carriage extra. A cheaper Binding can be supplied at 8s. 6d. Carriage extra. A useful Binder has been specially prepared, allowing the copies to open flat for reading. Price 4s. 6d., post free.

Advertisements for the current week, alterations to serial Advertisements, etc., must reach the office not later than first post on Saturday.

Rates for serial Advertisements, Special position, etc., sent upon application.

27-29 TOTHILL STREET, WESTMINSTER,
LONDON, S.W. 1.

Two New American Works

Italian Renaissance Furniture

By BODE and HERRICK

Increasing public interest in the work of Italian craftsmen amply justifies the publication of this book. Generously illustrated with photographs of choice examples of decorated furniture, the letterpress is in the highest degree interesting and informative, and the whole book constitutes a rich source of suggestion for the modern decorative artist.

Price ***£1 0 0***

□ □

A Book of CEILINGS

By GEORGE RICHARDSON
LONDON, 1776

This volume forms a valuable addition to the literature available on the Late Georgian period, containing as it does a series of fine examples of the Adam school of decoration.

The book has just been published in America, and the English Rights have been secured by this House. Copies may be seen in the Library at 29 Tothill Street, S.W.

48 LARGE PLATES
(reproduced by lithograph)

Price ***£4 0 0***

□ □

TECHNICAL JOURNALS, LTD.,
27–29 Tothill Street, Westminster, S.W.1

WM. OLIVER & SONS LTD.

Thoroughly Seasoned Wainscot.

Mahogany, Walnut, Teak, and other Hardwoods, in all Thicknesses.

ENGLISH TIMBER.

Seasoned Quartered Oak, Oak Butts, Aeroplane Ash, Walnut, &c.

Office: 120 BUNHILL ROW, LONDON, E.C. 1

FOR EVERY KIND OF PHOTOGRAPHY
SEND TO
LANGFIÉR,
(Commercial Department)
343 FINCHLEY ROAD, HAMPSTEAD, N.W. 3
Phone: HAMPSTEAD 1250.

WROUGHT OR CAST.

MEMORIALS & TABLETS

in Bronze, Brass, and other Metals
by ARTIST CRAFTSMEN.

Engraving.
Carving.
Chasing.
Enamelling.

Design and Workmanship of highest standard.
Architects' drawings accurately worked to.

OFFORD
Rutland House, Little East Street, Brighton.

KINNEAR

PATENT STEEL ROLLING

SHUTTERS

are used in

Public, Private and Commercial GARAGES Throughout the World

On Admiralty, War Office and other Lists.

ARTHUR L. GIBSON
Radnor Works, TWICKENHAM

GLASGOW: 121 West George St.
MANCHESTER: 90 Deansgate.

CORVO SLATE

——A THOROUGHLY RELIABLE SLATE

This slate is of very Superior Quality. It enamels well and is most suitable for electrical work, being free from metal.

A good stock on hand in London, the thicknesses of which run from ½″ to 2¼″ lengths 3′ 0″ to 7′ 0″, with widths 1′ 4″ to 3′ 6″.

MAY WE QUOTE YOU?

THE HOUSE FOR MARBLE.

PERCY C. WEBB
LIMITED.

Marble & Granite Merchants & Workers.

LONDON . . . . .

Office:

6 ST. KATHARINE
DOCKS, E.1.
Telephone: AVENUE 1385.

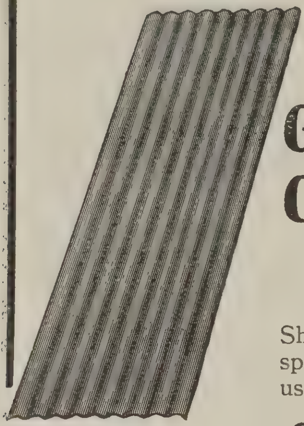
Works & Depot:

CARRARA WORKS,
Englefield Road,
Dalston, N.1.
Telephone: DALSTON 920.

ITALY . . . . . .
Via Del Bastione,
Massa.

LYSAGHT'S
"ORB" Brand

ORB



GALVANIZED
CORRUGATED
SHEETS.

Sheets bearing this brand are specially manufactured for use in the

construction of
PERMANENT BUILDINGS.

They are given a heavy protective coating of zinc to ensure long service.

Engineers and architects can rely upon these being the finest quality obtainable.

Manufactured by
JOHN LYSAGHT, LIMITED,
BRISTOL.

BURN BROS'

Cast Iron Gas-tight
House Drains,
& L.C.C. Soil Pipes
& Fittings.

LARGEST STOCK IN THE TRADE FOR INSTANT DELIVERY.

Endless variety of
Patterns to Select
from.

ROTUNDA WORKS,
3 Blackfriars Road,
LONDON, S.E.

DOLOMENT
Jointless Flooring
and Wall Covering Material

Doloment Floors and Wall Coverings have been very extensively used in all classes of buildings during the last fifteen years and have given the utmost satisfaction alike to Architects and their clients.

Guaranteed not to Bulge or Crack

FIREPROOF
IMPERVIOUS
HYGIENIC
RESILIENT
DURABLE

Write for particulars and samples.

THE BRITISH DOLOMENT Co., Ltd.,
167 STRAND, LONDON, W.C. 2.

Telephone: Central 263. Telegrams: "Dolomental, Estrand, London"

WINDOW
FRAMES
AND
DOORS

This B. and P. Joinery combines skilled workmanship and lasting wear. The Doors and Windows are well made in first-class style from selected timber, in various sizes and designs. Owing to our mass production system we can offer immediate delivery from stock. Full particulars and prices on application. Architects' special requirements attended to without delay.

SOME B. and P. SPECIALITIES. Boulton & Paul specialize in wooden structures of every description—Bungalows, Motor Car Houses, Cycle Houses, Reading Rooms, Churches, Institutes, Boat Houses, Summer Houses, Hospitals, Sanatoria, Revolving Shelters, Stables, Kennels, etc., etc. Full particulars on application.

Boulton & Paul Ltd.
WORKS & HEAD OFFICE, NORWICH.
Telephone: NORWICH 851. Telegrams: BOULTON, NORWICH.
LONDON ADDRESS: 135-7 QUEEN VICTORIA STREET, E.C.

The Art of E. A. Rickards

With a personal sketch by
MR. ARNOLD BENNETT.

This volume comprises a representative selection of the work of the late E. A. Rickards. It presents as worthily as the best reproduction will allow, both in monochrome and colour, a large number of the finest Architectural Drawings, Designs, Illustrations, Caricatures, and Sketches executed by one who was perhaps the foremost architectural draughtsman of his day.

To his brother architects the value of Rickards' work is enhanced by the breadth of his artistic experience, and the volume is full of suggestive material.

In addition to the personal sketch by Mr. Arnold Bennett, Mr. H. V. Lanchester, F.R.I.B.A., and Mr. Amor Fenn have dealt with other views of his work and life.

Price £3 3s. net.

TECHNICAL JOURNALS, LTD.,
27-29 Tothill Street, Westminster, S.W. 1.

Specification

1921

THE STANDARD WORK OF REFERENCE FOR ARCHITECTS, SURVEYORS, AND CIVIL ENGINEERS.

Edited by
Fredk. Chatterton, F.R.I.B.A.

Specification is as necessary to the Architect as an encyclopædia is to the man of letters. It comprises in a single volume a vast amount of technical information. Moreover, the information is exactly what the Architect requires when he is preparing his specification.

The Special Articles which appear in the 1921 issue are :—

Economic Cottage Building (Illustrated), by Percy J. Waldram, F.S.I.

Hints on Specification Writing (Illustrated), by T. Sumner-Smith, M.Q.S.A.

Architectural Acoustics (Illustrated), by H. Bagenal, A.R.I.B.A.

The Design and Construction of Strong Rooms (Illustrated).

Cause and Prevention of Dry Rot in Timber (Illustrated).

The Progressive Application of Gas in the Modern Home, by H. H. Creasey.

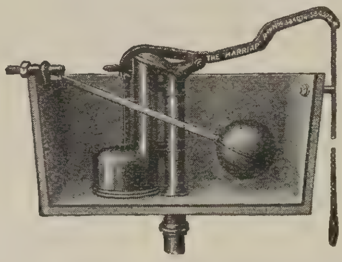
As recent Editions have been very rapidly sold out, those who have not yet ordered their copies are advised to do so at once.

SPECIFICATION 1921
Price 10/6 net. Postage 1/- extra.

TECHNICAL JOURNALS, LTD.,
27–29 Tothill Street, Westminster, S.W. 1

G. W. HARRISON & CO.,
Napier Lead Works, Laisterdyke, Bradford.
Awarded Bronze Medal by the Royal Sanitary Institute at the Health Exhibition, Folkestone, 1921.

MAKERS OF THE
"HARRIAP"



Patents:
Nos.
128725
126850
Registered Trade Mark Nos.
384076
384572

The latest, and most perfect
WATER WASTE PREVENTING FLUSHING CISTERN
yet put on the market.

Although no higher in price than other competing Cisterns, it will be found to be the most DURABLE, SENSITIVE, SILENT, QUICK FLUSH, SIMPLE AND ECONOMICAL.

We earnestly solicit the interest of Architects, Surveyors, and Medical Officers of Health in this Cistern, as they will be able to adopt the most superior article on the market at the same price as the mediocre, and we shall be pleased to send a free sample for trial where a number are likely to be required.

Kinnell's
HEATING
AND HOT WATER SUPPLY.

FOR PRIVATE RESIDENCES AND PUBLIC BUILDINGS OF ALL DESCRIPTIONS.

HIGH EFFICIENCY WITH UTMOST ECONOMY.

SCHEMES & ESTIMATES FREE.

C. P. KINNELL & CO., Ltd.
SOUTHWARK ST., LONDON, S.E.1

STEAM LAUNDRY MACHINERY

For Hospitals, Infirmaries, Asylums, Commercial & Private House Laundries.
Specifications free.

D&J. TULLIS LD
LAUNDRY ENGINEERS
D&J Tullis LIMITED CLYDEBANK N.B.
Kilbowie Iron Works
CLYDEBANK.

BACK VOLUMES.

A certain number of surplus Volumes of the "JOURNAL" (slightly shop-soiled) can be had at a reduced price.

They contain invaluable articles and illustrations of a practical nature which will be found of great service.

The Volumes range from 1897 to 1911, and may be seen at the Reading Room, 29 Tothill Street.

As the Volumes are slightly soiled through having been in stock the price for them has been reduced to

5/- per Volume.

TECHNICAL JOURNALS, LTD.,
27–29 Tothill Street, Westminster, S.W. 1

"HEMPSTEAD" HOLLOW PARTITION BLOCKS AND FLOOR BLOCKS

IMMEDIATE DELIVERY OF STOCK SIZES.
FLOOR BLOCKS to suit Patentees' Requirements.

Address Enquiries:
THE HEMEL HEMPSTEAD PATENT BRICK CO., LTD.
326 GRAY'S INN ROAD, LONDON, W.C. 1

Telephone: MUSEUM 4588. Telegrams: "LUGGDOM," LONDON.

Architects & Propaganda

There is possibly no other profession but that of Architecture which has in the past lacked so greatly in cohesion, co-ordination of purpose, and in the uses of well-conceived propaganda.

The slightest tinge of self-exploitation in professional matters always offends against that instinctive good taste which reveals highly trained artistic faculties.

The professions which aim at public service, and depend upon a sense of professional dignity and etiquette for guidance in internal and external intercourse, can in no way safely abandon such an attitude.

The professional papers, however, which serve the great cause of Architecture and its allied industries, serve to educate public opinion both inside and outside the profession, and are valuable means for the best type of propaganda.

The Architects' Journal

27-29 *Tothill Street, Westminster,*
London, S.W. 1

Wednesday *Sixpence*

P.G.

Alphabetical Index to Advertisers.

	Page
Adams, Robert	——
Allan, Philip & Co.	——
Anderson, D., & Sons, Ltd.	iii
Anglo-American Oil Co., Ltd.	——
Aspinall's Enamel, Ltd.	——
Associated Portland Cement Manufacturers, Ltd.	ii
Barrett & Wright, Ltd.	——
Bell's United Asbestos Co., Ltd.	——
Blakeley, E. F., & Co., Ltd.	xiv
Boulton, J. & Co., Ltd.	——
Boulton & Paul, Ltd.	xxx
Briggs, W., & Sons, Ltd.	——
British Commercial Gas Association	——
British Doloment Co., Ltd.	xxx
British Fibrocement Works	xiv
British Luxfer Prism Synd., Ltd.	ii
British Portland Cement Manufacturers, Ltd.	ii
British Premier Magnesite Flooring Co.	——
British Reinforced Concrete Engineering Co., Ltd.	xiv, xxxii
British Thomson-Houston Co., Ltd.	——
British Uralite Co. (1908), Ltd.	——
British Vacuum Cleaner Co., Ltd.	——
Brown & Critchley, Ltd.	——
Bruster, O., & De Launoit	——
Bryden, John, & Sons	——
Building Products, Ltd.	——
Burn, Bros.	xxx
Cakebread, Robey & Co., Ltd.	iv
Callender, G. M., & Co., Ltd.	xxiii
Carron Company	——
Carson, W., & Sons	xiii
Caxton Publishing Co., Ltd.	——
Cement Marketing Co., Ltd.	
Central Chemicals, Ltd.	xiv
Central Heating Co.	——
Charles & Read, Ltd.	vi
Coatostone Decoration Co.	xxxv
Crane-Bennett, Ltd.	xxi
Crittall Mfg. Co., Ltd.	vii
C. S. Co., Ltd. ("Veronese")	xx
Dawnay, Archibald D., & Sons, Ltd.	——
Dent & Hellyer, Ltd.	——
Diespeker	——
Drew-Bear, Perks & Co., Ltd.	——
Dunham Co., C. A., Ltd.	——
Dunkerley, C. C. & Co., Ltd.	——
Edison Swan Electric Co.	xii
Elliott, S., & Sons, Reading, Ltd.	——
Empire Stone Co., Ltd.	xxv
En-Tout-Cas Co., Ltd.	——
Expanded Metal Co., Ltd.	v
Express Lift Co., Ltd.	——
Faldo, Thomas, & Co., Ltd.	——
Farmiloe, T. & W., Ltd.	ix
Farrow & Jackson, Ltd.	——
General Electric Co., Ltd.	——
Gibson, Arthur L.	xxix
Gillett & Johnston	——
Green & Abbott, Ltd.	xvii
Hall, B. J., & Co.	——
Hamilton, Arch., H. & Co., Ltd.	——
Hardtmuth, L. & C.	——
Harland, Wm., & Son	——
Harrison, G. W. & Co.	xxxii
Haywards, Ltd.	xxxv
Helical Bar Co.	xxxiv
Hemel Hempstead Patent Brick Co., Ltd.	xxxii
Higgs & Hill, Ltd.	——
Holst, K., & Co.	xviii
Homan & Rodgers (London)	——
Homan & Rodgers (Manchester)	xxvii
Hope, Henry, & Son, Ltd.	xxii
Hy-Rib (Trussed Concrete Steel Co., Ltd.)	xxxvi
Indented Bar & Concrete Engineering Co., Ltd.	——
Ironite Co., Ltd.	——
Jacks, W., & Co.	xxv
Jackson, G., & Sons, Ltd.	——
Jenkins, Robert, & Co., Ltd.	iii
Johnson, Ben. Henry, & Sons, Ltd., Liverpool	——
Johnson's Reinforced Concrete Engineering Co., Ltd.	——
Kerner-Greenwood & Co., Ltd.	——
King, J. A., & Co.	——
Kinnell, C. P. & Co., Ltd.	xxxii
Kleine Patent Flooring Syndicate, Ltd.	——
Langfier Photos	xxix
Leggott, W. & R., Ltd.	——
Lind, Peter, & Co.	——
Lysaght, John, Ltd.	xxx
Macandrews & Forbes, Ltd.	——
McNeill, F., & Co., Ltd.	xxv
Manu Marble Co.	——
Martin, Earle & Co., Ltd.	ii
Martyn, H. H. & Co., Ltd.	xx
Measures Bros. (1911), Ltd.	xxiv
Medway's Safety Lift Co., Ltd.	——
Mellowes & Co., Ltd.	viii
Messenger & Co., Ltd.	xiv
Monitor Heating Co. of Gt. Britain	——
O'Brien, Thomas & Co	——
Offord	xxix
Oliver, Wm., & Son, Ltd.	xxix
Parkinson Stove Co., Ltd., The	——
Peacock, Chas., & Co., Ltd.	xxxiv
Phœnix Assurance Company, Ltd.	——
Pinchin, Johnson & Co., Ltd.	——
Ravenhead Sanitary Pipe & Brick Co., Ltd.	——
Redpath, Brown & Co., Ltd.	xvi
Richmond Gas Stove & Meter Co., Ltd.	——
Ruberoid Co., Ltd.	——
Sankey, J. H., & Son, Ltd.	iii
Siegwart Fireproof Floor Co., Ltd.	——
Simplex Concrete Piles, Ltd.	——
Simplex Conduits, Ltd.	——
Sissons Bros. & Co., Ltd.	——
Skelton, R. A., & Co.	——
Somerville, D. G., & Co., Ltd.	xv.ii
Speaker, G. R., & Co.	——
Steam Cleaning Corporation	xxxv
Stephens, H. C.	——
Stitson, White & Co.	xv
Stone Preservation Co., Ltd.	xxxv
Stuarts Granolithic Co., Ltd.	——
Tann, John, Ltd.	xxi
Technical Journals	x, xi, xxix, xxxi, xxxii, xxxiii, xxxiv
Thames Mills, Purfleet, Essex	——
Tickle, R. G. & Son	viii
Trussed Concrete Steel Co., Ltd.	xxxvi
Tuke & Bell, Ltd.	——
Tullis, D. & J., Ltd.	xxxii
Twisted Steel Bar Co., Ltd.	——
United Stone Firms	——
Venesta, Ltd	——
"Venus"	——
Vitrolite Construction Co. (Europe), Ltd.	——
Vulcanite, Ltd.	——
Waygood-Otis, Ltd	——
Webb, P. C., Ltd.	xxix
Whatman Drawing Papers	xxi
Wilfley Co., Ltd.	——
Willcox, W. H., & Co., Ltd.	iii
Williams & Williams, Ltd.	——
Winget, Ltd.	xxvii
Woodbridge, W.	——
Wouldham Cement Co., Ltd.	ii
Yale & Towne Manufacturing Co.	——

For Appointments (Wanted and Vacant), Competitions Open, Contracts Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous, Property and Land Sales—see pages xxii, xxiv, xxvi, xxviii.

MILD STEEL ROUNDS
for FERRO-CONCRETE
ALL SIZES.

BARS

PROMPT DELIVERIES FROM STOCK AND WORKS:

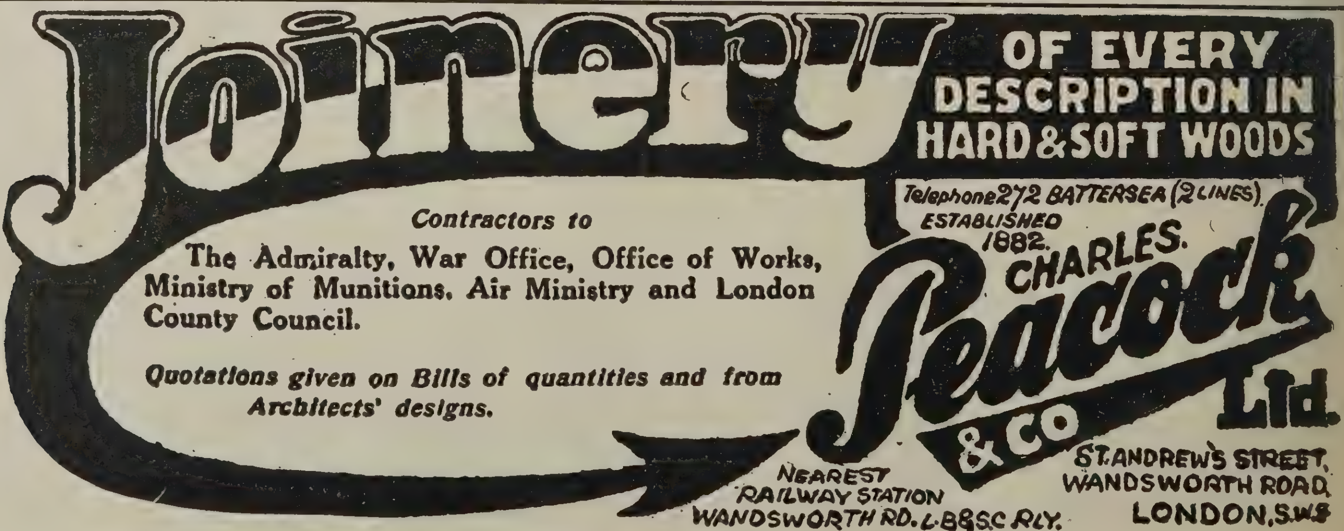
PLATES, SHEETS, ANGLES,
JOISTS, TEES, FLATS,
SQUARES,
and Structural Steel of all kinds.

HELICAL BAR CO., 72 Victoria Street, Westminster, London, S.W.1.
TELEPHONE: VICTORIA, 1940-1941.

ARCHITECTURAL WATER COLOURS.

Examples of the work of Alfred C. Conradé are now on view in the Reading Room at 29 Tothill Street, Westminster. Architects are cordially invited to visit the Exhibit, which is open free of charge from 10.30 a.m. to 4.30 p.m. daily.

TECHNICAL JOURNALS, LTD., 27-29 TOTHILL STREET, WESTMINSTER, S.W.1



Joinery OF EVERY DESCRIPTION IN HARD & SOFT WOODS

Telephone 272 BATTERSEA (2 LINES).
ESTABLISHED 1882.

Contractors to
The Admiralty, War Office, Office of Works, Ministry of Munitions, Air Ministry and London County Council.

Quotations given on Bills of quantities and from Architects' designs.

CHARLES Peacock & CO Ltd.
ST. ANDREW'S STREET, WANDSWORTH ROAD, LONDON, S.W.8

NEAREST RAILWAY STATION WANDSWORTH RD. L.B.&S.C. RLY.

HAYWARDS "REFORM" PATENT ROOF GLAZING

STRONG, EFFICIENT, SIMPLE, DURABLE, AND INEXPENSIVE.

Greatest Advantages of any System. Suited to all circumstances. Factories, Verandahs, etc.

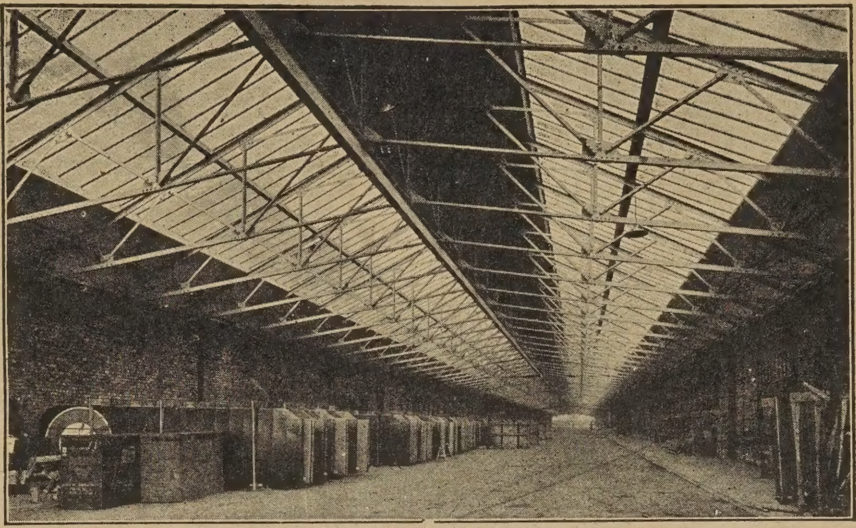
OVER 1,000,000 FEET SUPER SUPPLIED DURING THE WAR TO MUNITION FACTORIES, &c.

HAYWARDS
STANDARD "REFORM"
SKYLIGHTS.

VERANDAHS.

PORCHES.

WASHING SHELTERS
AND
ROOFS
FOR
MOTOR GARAGES
&c., &c.



Messrs. Crossley's Works, Manchester (over 300,000 ft. super supplied).

HAYWARDS L^TD

Contractors to the Admiralty, War Office,
Min. Munitions, H.M. Office of Works, &c.

UNION STREET
BOROUGH, LONDON, S.E.1
Telephone HOP 3642 (3 lines)

Branches at
Birmingham
Manchester
Glasgow
Plymouth &c.

COATOSTONE

A COAT OF STONE WHICH HARDENS LIKE STONE

APPLIED WITH A BRUSH LIKE PAINT.

WATERPROOF

PERFECT SUBSTITUTE FOR FRENCH STUC.

ANY PAINTER CAN USE IT.

SPLENDID MASONRY EFFECT WHEN LINED OUT IN BLOCKS

Made to Match ALL STONES. ALSO IN COLOURS.

Applied direct on Concrete, Brick, Tile, Asbestos, Wood, etc., Saves Labour. Unequalled as an artistic weather-proof Coating for all Types of Buildings.

COATOSOL

A Chemical Waterproofing Solution of transparent nature for Stonework, Terra-Cotta, Brickwork, Asbestos, etc., etc. Woodwork treated with Coatosol is Fireproofed as well as Waterproofed.
One coat better than two of other make.

COATO-ROUGH-CAST

Applied with a brush direct on Concrete, Brick, Tile, etc., etc.
No cement rendering required.
Great Saving in Time and Labour.
Unsurpassed as an artistic and weather resisting external coating for COTTAGES and other buildings.

"COATO-GLOSS," a successful substitute for Glazed Bricks or Tiles. Other Specialities.
"COATO-STUC," the best combination of materials for French Stuc.

Full particulars and price lists on application.

Entirely British.

Telegrams: COATOSTONE, PHONE, LONDON.
Telephone: MUSEUM 6632

THE COATOSTONE DEC. & MFG. CO.,
9a LITTLE JAMES STREET, GRAY'S INN ROAD,
LONDON, W.C. 1.

Factory:
10/12, NORTH MEWS,
GRAY'S INN ROAD,
W.C. 1.

The STONE PRESERVATION CO., Ltd.

Restorers and Preservers of
MODERN AND HISTORICAL BUILDINGS.

40 YEARS' EXPERIENCE.

Full particulars on application.

Address telephones and telegrams same as "COATOSTONE" (see above).

The STEAM CLEANING CORPORATION.

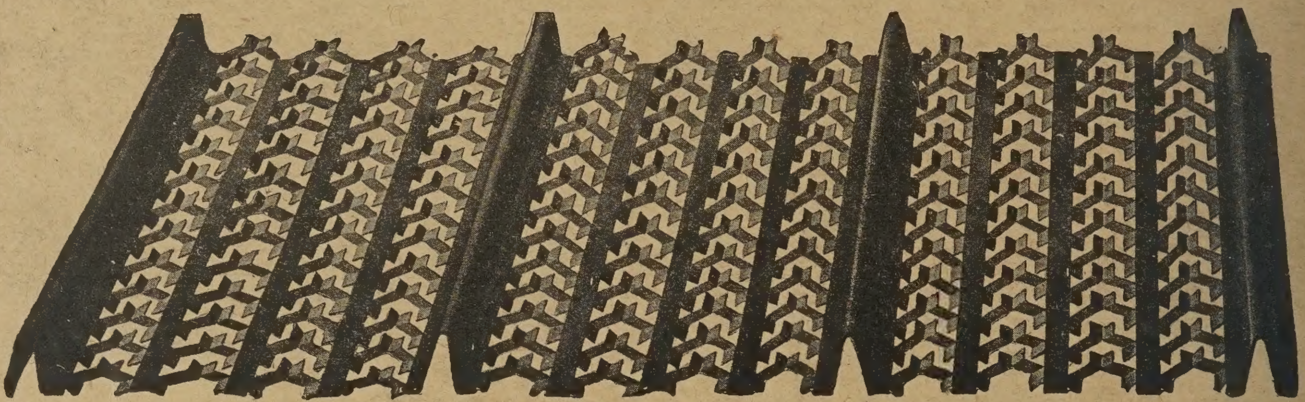
BUILDINGS STEAM CLEANED
AND PRESERVED

WITHOUT INJURY TO THE FABRIC.

Address telephones and telegrams same as "COATOSTONE" (see above).

HY-RIB

Prices now much Reduced.
Immediate delivery from ample stocks.



HY-RIB has made its way by the way it's made.

Note the strength in the rigid ribs. *Note the design of the mesh as a key for cement plaster.*

1. HY-RIB is a steel sheathing of great rigidity which is both a centering and a reinforcement.
2. HY-RIB is used for Concrete Floors, Walls, Roofs, Partitions, Tanks, etc.
3. HY-RIB is used in conjunction with any kind of framework —Reinforced Concrete, Structural Steel, or Timber.
4. HY-RIB eliminates timber shuttering or falsework.

FIRST COST LOW—UPKEEP PRACTICALLY NON-EXISTENT.

Write to-day for the "HY-RIB HANDBOOK" showing practical application.

THE TRUSSED CONCRETE STEEL CO. LTD.

52 Truscon House, Cranley Gardens, South Kensington, S.W.7

Printed for the Proprietors of "The Architects' Journal" (Technical Journals, Ltd.), 27–29 Tothill Street, Westminster, S.W. 1, by Eyre and Spottiswoode Ltd., Downs Park Road, London, E 8.
Yearly Subscription: at Home, £1 7s. 6d.; Canada, £1 10s. 0d.; Elsewhere Abroad, £1 12s. 6d.
Agents—Canada: The Toronto News Co., Ltd., The Montreal News Co. U.S.A.: The International News Co., Duane Street, New York, William Helburn, New York, J. H. Jansen, Cleveland, Ohio, G. Broes van Dort Co., Chicago, J. Scudney, Boston. South Africa: The Central News Agency, Ltd., Cape Town. India: The Union Agency, Bombay, D. B. Taraporevala Sons & Co., Ltd., Bombay. Australia: E. S. Wigg & Co., Adelaide, G. Jervis Manton, Melbourne, Whitcomb & Tombs, Ltd., Melbourne. Japan: Maruzen Co., Tokyo. Holland: J. G. Robbers, Amsterdam.

UNIVERSITY OF ILLINOIS-URBANA

3 0112 078033732